



## SEQUENCE LISTING

<110> REGENERON PHARMACEUTICALS, INC.

<120> RECEPTOR BASED ANTAGONISTS, AND METHODS OF MAKING  
AND USING

<130> REG 203-A

<140> USSN 09/313,942

<141> 1999-05-19

<150> 09/313,942

<151> 1999-05-19

<150> 60/101,858

<151> 1998-09-25

<160> 32

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Tag sequence

<400> 1

His His His His His His  
1 5

<210> 2

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide derived from region near C-terminus of  
gp130

<400> 2

Cys Gly Thr Glu Gly Gln Val Glu Arg Phe Glu Thr Val Gly Met Glu  
1 5 10 15

<210> 3

<211> 16

<212> DNA

<213> Artificial Sequence

<220>

<223> Kozak sequence

<400> 3

cgccggccacc atgggtg

16

<210> 4

<211> 10

<212> PRT  
<213> Artificial Sequence

<220>  
<223> J peptide

<400> 4

Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
1 5 10

<210> 5  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> J peptide

<400> 5

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
1 5 10

<210> 6  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> linker sequence

<400> 6

Gly Ala Pro Ser Gly Gly Gly Arg Pro  
1 5 10

<210> 7  
<211> 859  
<212> PRT  
<213> Homo sapiens

<400> 7

Met Val Thr Leu Gln Thr Trp Val Val Gln Ala Leu Phe Ile Phe Leu  
1 5 10 15  
Thr Thr Glu Ser Thr Gly Glu Leu Leu Asp Pro Cys Gly Tyr Ile Ser  
20 25 30  
Pro Glu Ser Pro Val Val Gln Leu His Ser Asn Phe Thr Ala Val Cys  
35 40 45  
Val Leu Lys Glu Lys Cys Met Asp Tyr Phe His Val Asn Ala Asn Tyr  
50 55 60  
Ile Val Trp Lys Thr Asn His Phe Thr Ile Pro Lys Glu Gln Tyr Thr  
65 70 75 80  
Ile Ile Asn Arg Thr Ala Ser Ser Val Thr Phe Thr Asp Ile Ala Ser  
85 90 95  
Leu Asn Ile Gln Leu Thr Cys Asn Ile Leu Thr Phe Gly Gln Leu Glu  
100 105 110  
Gln Asn Val Tyr Gly Ile Thr Ile Ile Ser Gly Leu Pro Pro Glu Lys  
115 120 125  
Pro Lys Asn Leu Ser Cys Ile Val Asn Glu Gly Lys Lys Met Arg Cys  
130 135 140  
Glu Trp Asp Gly Gly Arg Glu Thr His Leu Glu Thr Asn Phe Thr Leu  
145 150 155 160  
Lys Ser Glu Trp Ala Thr His Lys Phe Ala Asp Cys Lys Ala Lys Arg

	165	170	175												
Asp	Thr	Pro	Thr	Ser	Cys	Thr	Val	Asp	Tyr	Ser	Thr	Val	Tyr	Phe	Val
		180						185					190		
Asn	Ile	Glu	Val	Trp	Val	Glu	Ala	Glu	Asn	Ala	Leu	Gly	Lys	Val	Thr
		195				200						205			
Ser	Asp	His	Ile	Asn	Phe	Asp	Pro	Val	Tyr	Lys	Val	Lys	Pro	Asn	Pro
		210				215					220				
Pro	His	Asn	Leu	Ser	Val	Ile	Asn	Ser	Glu	Glu	Leu	Ser	Ser	Ile	Leu
		225			230			235				240			
Lys	Leu	Thr	Trp	Thr	Asn	Pro	Ser	Ile	Lys	Ser	Val	Ile	Ile	Leu	Lys
		245				250						255			
Tyr	Asn	Ile	Gln	Tyr	Arg	Thr	Lys	Asp	Ala	Ser	Thr	Trp	Ser	Gln	Ile
		260			265			270							
Pro	Pro	Glu	Asp	Thr	Ala	Ser	Thr	Arg	Ser	Ser	Phe	Thr	Val	Gln	Asp
		275			280			285							
Leu	Lys	Pro	Phe	Thr	Glu	Tyr	Val	Phe	Arg	Ile	Arg	Cys	Met	Lys	Glu
		290			295			300							
Asp	Gly	Lys	Gly	Tyr	Trp	Ser	Asp	Trp	Ser	Glu	Glu	Ala	Ser	Gly	Ile
		305			310			315				320			
Thr	Tyr	Glu	Asp	Arg	Pro	Ser	Lys	Ala	Pro	Ser	Phe	Trp	Tyr	Lys	Ile
		325				330			335						
Asp	Pro	Ser	His	Thr	Gln	Gly	Tyr	Arg	Thr	Val	Gln	Leu	Val	Trp	Lys
		340			345			350							
Thr	Leu	Pro	Pro	Phe	Glu	Ala	Asn	Gly	Lys	Ile	Leu	Asp	Tyr	Glu	Val
		355			360			365							
Thr	Leu	Thr	Arg	Trp	Lys	Ser	His	Leu	Gln	Asn	Tyr	Thr	Val	Asn	Ala
		370			375			380							
Thr	Lys	Leu	Thr	Val	Asn	Leu	Thr	Asn	Asp	Arg	Tyr	Leu	Ala	Thr	Leu
		385			390			395				400			
Thr	Val	Arg	Asn	Leu	Val	Gly	Lys	Ser	Asp	Ala	Ala	Val	Leu	Thr	Ile
		405			410			415							
Pro	Ala	Cys	Asp	Phe	Gln	Ala	Thr	His	Pro	Val	Met	Asp	Leu	Lys	Ala
		420			425			430							
Phe	Pro	Lys	Asp	Asn	Met	Leu	Trp	Val	Glu	Trp	Thr	Thr	Pro	Arg	Glu
		435			440			445							
Ser	Val	Lys	Lys	Tyr	Ile	Leu	Glu	Trp	Cys	Val	Leu	Ser	Asp	Lys	Ala
		450			455			460							
Pro	Cys	Ile	Thr	Asp	Trp	Gln	Gln	Glu	Asp	Gly	Thr	Val	His	Arg	Thr
		465			470			475				480			
Tyr	Leu	Arg	Gly	Asn	Leu	Ala	Glu	Ser	Lys	Cys	Tyr	Leu	Ile	Thr	Val
		485			490			495							
Thr	Pro	Val	Tyr	Ala	Asp	Gly	Pro	Gly	Ser	Pro	Glu	Ser	Ile	Lys	Ala
		500			505			510							
Tyr	Leu	Lys	Gln	Ala	Pro	Pro	Ser	Gly	Pro	Thr	Val	Arg	Thr	Lys	
		515			520			525							
Lys	Val	Gly	Lys	Asn	Glu	Ala	Val	Leu	Glu	Trp	Asp	Gln	Leu	Pro	Val
		530			535			540							
Asp	Val	Gln	Asn	Gly	Phe	Ile	Arg	Asn	Tyr	Thr	Ile	Phe	Tyr	Arg	Thr
		545			550			555				560			
Ile	Ile	Gly	Asn	Glu	Thr	Ala	Val	Asn	Val	Asp	Ser	Ser	His	Thr	Glu
		565			570			575							
Tyr	Thr	Leu	Ser	Ser	Leu	Thr	Ser	Asp	Thr	Leu	Tyr	Met	Val	Arg	Met
		580			585			590							
Ala	Ala	Tyr	Thr	Asp	Glu	Gly	Lys	Asp	Gly	Pro	Glu	Phe	Thr	Phe	
		595			600			605							
Thr	Thr	Pro	Lys	Phe	Ala	Gln	Gly	Glu	Ile	Glu	Ser	Gly	Glu	Pro	Lys
		610			615			620							
Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu
		625			630			635				640			
Leu	Gly	Gly	Pro	Ser	Val	Asp	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp
		645			650			655							

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val  
 660 665 670  
 Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val  
 675 680 685  
 Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser  
 690 695 700  
 Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu  
 705 710 715 720  
 Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala  
 725 730 735  
 Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro  
 740 745 750  
 Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln  
 755 760 765  
 Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala  
 770 775 780  
 Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr  
 785 790 795 800  
 Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu  
 805 810 815  
 Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser  
 820 825 830  
 Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser  
 835 840 845  
 Leu Ser Pro Gly Lys His His His His His His  
 850 855

<210> 8  
 <211> 592  
 <212> PRT  
 <213> Homo sapiens

<400> 8

Met Val Ala Val Gly Cys Ala Leu Leu Ala Ala Leu Leu Ala Ala Pro  
 1 5 10 15  
 Gly Ala Ala Leu Ala Pro Arg Arg Cys Pro Ala Gln Glu Val Ala Arg  
 20 25 30  
 Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val Thr Leu Thr Cys Pro  
 35 40 45  
 Gly Val Glu Pro Glu Asp Asn Ala Thr Val His Trp Val Leu Arg Lys  
 50 55 60  
 Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala Gly Met Gly Arg Arg  
 65 70 75 80  
 Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys  
 85 90 95  
 Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val  
 100 105 110  
 Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser  
 115 120 125  
 Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr  
 130 135 140  
 Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp  
 145 150 155 160  
 Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys  
 165 170 175  
 Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met  
 180 185 190  
 Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe  
 195 200 205  
 Gln Gly Cys Gly Ile Leu Gln Pro Asp Pro Pro Ala Asn Ile Thr Val  
 210 215 220

Thr Ala Val Ala Arg Asn Pro Arg Trp Leu Ser Val Thr Trp Gln Asp  
 225 230 235 240  
 Pro His Ser Trp Asn Ser Ser Phe Tyr Arg Leu Arg Phe Glu Leu Arg  
 245 250 255  
 Tyr Arg Ala Glu Arg Ser Lys Thr Phe Thr Thr Trp Met Val Lys Asp  
 260 265 270  
 Leu Gln His His Cys Val Ile His Asp Ala Trp Ser Gly Leu Arg His  
 275 280 285  
 Val Val Gln Leu Arg Ala Gln Glu Glu Phe Gly Gln Gly Glu Trp Ser  
 290 295 300  
 Glu Trp Ser Pro Glu Ala Met Gly Thr Pro Trp Thr Glu Ser Arg Ser  
 305 310 315 320  
 Pro Pro Ala Glu Asn Glu Val Ser Thr Pro Met Gln Ala Leu Thr Thr  
 325 330 335  
 Asn Lys Asp Asp Asp Asn Ile Leu Phe Arg Asp Ser Ala Asn Ala Thr  
 340 345 350  
 Ser Leu Pro Val Gln Asp Ala Gly Glu Pro Lys Ser Cys Asp Lys Thr  
 355 360 365  
 His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser  
 370 375 380  
 Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg  
 385 390 395 400  
 Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro  
 405 410 415  
 Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala  
 420 425 430  
 Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val  
 435 440 445  
 Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr  
 450 455 460  
 Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr  
 465 470 475 480  
 Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu  
 485 490 495  
 Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys  
 500 505 510  
 Leu Val Lys Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser  
 515 520 525  
 Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp  
 530 535 540  
 Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser  
 545 550 555 560  
 Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala  
 565 570 575  
 Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
 580 585 590

<210> 9  
 <211> 951  
 <212> PRT  
 <213> Homo sapiens

<400> 9

Met Val Thr Leu Gln Thr Trp Val Val Gln Ala Leu Phe Ile Phe Leu  
 1 5 10 15  
 Thr Thr Glu Ser Thr Gly Glu Leu Leu Asp Pro Cys Gly Tyr Ile Ser  
 20 25 30  
 Pro Glu Ser Pro Val Val Gln Leu His Ser Asn Phe Thr Ala Val Cys  
 35 40 45  
 Val Leu Lys Glu Lys Cys Met Asp Tyr Phe His Val Asn Ala Asn Tyr  
 50 55 60

Ile Val Trp Lys Thr Asn His Phe Thr Ile Pro Lys Glu Gln Tyr Thr  
 65 70 75 80  
 Ile Ile Asn Arg Thr Ala Ser Ser Val Thr Phe Thr Asp Ile Ala Ser  
 85 90 95  
 Leu Asn Ile Gln Leu Thr Cys Asn Ile Leu Thr Phe Gly Gln Leu Glu  
 100 105 110  
 Gln Asn Val Tyr Gly Ile Thr Ile Ile Ser Gly Leu Pro Pro Glu Lys  
 115 120 125  
 Pro Lys Asn Leu Ser Cys Ile Val Asn Glu Gly Lys Lys Met Arg Cys  
 130 135 140  
 Glu Trp Asp Gly Gly Arg Glu Thr His Leu Glu Thr Asn Phe Thr Leu  
 145 150 155 160  
 Lys Ser Glu Trp Ala Thr His Lys Phe Ala Asp Cys Lys Ala Lys Arg  
 165 170 175  
 Asp Thr Pro Thr Ser Cys Thr Val Asp Tyr Ser Thr Val Tyr Phe Val  
 180 185 190  
 Asn Ile Glu Val Trp Val Glu Ala Glu Asn Ala Leu Gly Lys Val Thr  
 195 200 205  
 Ser Asp His Ile Asn Phe Asp Pro Val Tyr Lys Val Lys Pro Asn Pro  
 210 215 220  
 Pro His Asn Leu Ser Val Ile Asn Ser Glu Glu Leu Ser Ser Ile Leu  
 225 230 235 240  
 Lys Leu Thr Trp Thr Asn Pro Ser Ile Lys Ser Val Ile Ile Leu Lys  
 245 250 255  
 Tyr Asn Ile Gln Tyr Arg Thr Lys Asp Ala Ser Thr Trp Ser Gln Ile  
 260 265 270  
 Pro Pro Glu Asp Thr Ala Ser Thr Arg Ser Ser Phe Thr Val Gln Asp  
 275 280 285  
 Leu Lys Pro Phe Thr Glu Tyr Val Phe Arg Ile Arg Cys Met Lys Glu  
 290 295 300  
 Asp Gly Lys Gly Tyr Trp Ser Asp Trp Ser Glu Glu Ala Ser Gly Ile  
 305 310 315 320  
 Thr Tyr Glu Asp Arg Pro Ser Lys Ala Pro Ser Phe Trp Tyr Lys Ile  
 325 330 335  
 Asp Pro Ser His Thr Gln Gly Tyr Arg Thr Val Gln Leu Val Trp Lys  
 340 345 350  
 Thr Leu Pro Pro Phe Glu Ala Asn Gly Lys Ile Leu Asp Tyr Glu Val  
 355 360 365  
 Thr Leu Thr Arg Trp Lys Ser His Leu Gln Asn Tyr Thr Val Asn Ala  
 370 375 380  
 Thr Lys Leu Thr Val Asn Leu Thr Asn Asp Arg Tyr Leu Ala Thr Leu  
 385 390 395 400  
 Thr Val Arg Asn Leu Val Gly Lys Ser Asp Ala Ala Val Leu Thr Ile  
 405 410 415  
 Pro Ala Cys Asp Phe Gln Ala Thr His Pro Val Met Asp Leu Lys Ala  
 420 425 430  
 Phe Pro Lys Asp Asn Met Leu Trp Val Glu Trp Thr Thr Pro Arg Glu  
 435 440 445  
 Ser Val Lys Lys Tyr Ile Leu Glu Trp Cys Val Leu Ser Asp Lys Ala  
 450 455 460  
 Pro Cys Ile Thr Asp Trp Gln Gln Glu Asp Gly Thr Val His Arg Thr  
 465 470 475 480  
 Tyr Leu Arg Gly Asn Leu Ala Glu Ser Lys Cys Tyr Leu Ile Thr Val  
 485 490 495  
 Thr Pro Val Tyr Ala Asp Gly Pro Gly Ser Pro Glu Ser Ile Lys Ala  
 500 505 510  
 Tyr Leu Lys Gln Ala Pro Pro Ser Lys Gly Pro Thr Val Arg Thr Lys  
 515 520 525  
 Lys Val Gly Lys Asn Glu Ala Val Leu Glu Trp Asp Gln Leu Pro Val  
 530 535 540  
 Asp Val Gln Asn Gly Phe Ile Arg Asn Tyr Thr Ile Phe Tyr Arg Thr

545	550	555	560												
Ile	Ile	Gly	Asn	Glu	Thr	Ala	Val	Asn	Val	Asp	Ser	Ser	His	Thr	Glu
					565					570					575
Tyr	Thr	Leu	Ser	Ser	Leu	Thr	Ser	Asp	Thr	Leu	Tyr	Met	Val	Arg	Met
					580					585					590
Ala	Ala	Tyr	Thr	Asp	Glu	Gly	Gly	Lys	Asp	Gly	Pro	Glu	Phe	Thr	Phe
					595					600					605
Thr	Thr	Pro	Lys	Phe	Ala	Gln	Gly	Glu	Ile	Glu	Ser	Gly	Ala	Ser	Thr
					610					615					620
Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser
					625					630					640
Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu
					645					650					655
Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His
					660					665					670
Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser
					675					680					685
Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys
					690					695					700
Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Lys	Val	Glu
					705					710					720
Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro
					725					730					735
Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys
					740					745					750
Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val
					755					760					765
Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp
					770					775					780
Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr
					785					790					800
Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp
					805					810					815
Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu
					820					825					830
Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg
					835					840					845
Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys
					850					855					860
Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp
					865					870					880
Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys
					885					890					895
Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser
					900					905					910
Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser
					915					920					925
Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser
					930					935					940
Leu	Ser	Leu	Ser	Pro	Gly	Lys									
					945					950					

<210> 10  
 <211> 332  
 <212> PRT  
 <213> Homo sapiens

<400> 10

Met Val Thr Leu Gln Thr Trp Val Val Gln Ala Leu Phe Ile Phe Leu  
 1 5 10 15  
 Thr Thr Glu Ser Thr Gly Glu Leu Leu Asp Pro Cys Gly Tyr Ile Ser

20	25	30
Pro Glu Ser Pro Val Val Gln Leu His Ser Asn Phe Thr Ala Val Cys		
35	40	45
Val Leu Lys Glu Lys Cys Met Asp Tyr Phe His Val Asn Ala Asn Tyr		
50	55	60
Ile Val Trp Lys Thr Asn His Phe Thr Ile Pro Lys Glu Gln Tyr Thr		
65	70	75
Ile Ile Asn Arg Thr Ala Ser Ser Val Thr Phe Thr Asp Ile Ala Ser		
85	90	95
Leu Asn Ile Gln Leu Thr Cys Asn Ile Leu Thr Phe Gly Gln Leu Glu		
100	105	110
Gln Asn Val Tyr Gly Ile Thr Ile Ile Ser Gly Leu Pro Pro Glu Lys		
115	120	125
Pro Lys Asn Leu Ser Cys Ile Val Asn Glu Gly Lys Lys Met Arg Cys		
130	135	140
Glu Trp Asp Gly Gly Arg Glu Thr His Leu Glu Thr Asn Phe Thr Leu		
145	150	155
Lys Ser Glu Trp Ala Thr His Lys Phe Ala Asp Cys Lys Ala Lys Arg		
165	170	175
Asp Thr Pro Thr Ser Cys Thr Val Asp Tyr Ser Thr Val Tyr Phe Val		
180	185	190
Asn Ile Glu Val Trp Val Glu Ala Glu Asn Ala Leu Gly Lys Val Thr		
195	200	205
Ser Asp His Ile Asn Phe Asp Pro Val Tyr Lys Val Lys Pro Asn Pro		
210	215	220
Pro His Asn Leu Ser Val Ile Asn Ser Glu Glu Leu Ser Ser Ile Leu		
225	230	235
Lys Leu Thr Trp Thr Asn Pro Ser Ile Lys Ser Val Ile Ile Leu Lys		
245	250	255
Tyr Asn Ile Gln Tyr Arg Thr Lys Asp Ala Ser Thr Trp Ser Gln Ile		
260	265	270
Pro Pro Glu Asp Thr Ala Ser Thr Arg Ser Ser Phe Thr Val Gln Asp		
275	280	285
Leu Lys Pro Phe Thr Glu Tyr Val Phe Arg Ile Arg Cys Met Lys Glu		
290	295	300
Asp Gly Lys Gly Tyr Trp Ser Asp Trp Ser Glu Glu Ala Ser Gly Ile		
305	310	315
Thr Tyr Glu Asp Arg Pro Ser Lys Ala Pro Ser Gly		
325	330	

<210> 11  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 11

Ser Gly Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys		
1	5	10
Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly		
20	25	30
Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro		
35	40	45
Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr		
50	55	60
Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val		
65	70	75
Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn		
85	90	95
Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro		
100	105	110
Lys Ser Cys Asp Lys Thr His Thr		

115

120

<210> 12

<211> 329

<212> PRT

<213> Homo sapiens

<400> 12

Ser Gly Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys  
1 5 10 15  
Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys  
20 25 30  
Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu  
35 40 45  
Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu  
50 55 60  
Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr  
65 70 75 80  
Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val  
85 90 95  
Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro  
100 105 110  
Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
115 120 125  
Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
130 135 140  
Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr  
145 150 155 160  
Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
165 170 175  
Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
180 185 190  
Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
195 200 205  
Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln  
210 215 220  
Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met  
225 230 235 240  
Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
245 250 255  
Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn  
260 265 270  
Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
275 280 285  
Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val  
290 295 300  
Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
305 310 315 320  
Lys Ser Leu Ser Leu Ser Leu Gly Lys  
325

<210> 13

<211> 108

<212> PRT

<213> Homo sapiens

<400> 13

Ser Gly Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
1 5 10 15  
Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
20 25 30

Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
     35                         40                         45  
 Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp  
     50                         55                         60  
 Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr  
     65                         70                         75                         80  
 Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser  
     85                         90                         95  
 Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
     100                      105

<210> 14  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

<400> 14

Ser Gly Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser  
     1                         5                         10                         15  
 Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp  
     20                         25                         30  
 Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro  
     35                         40                         45  
 Val Lys Ala Gly Val Glu Thr Thr Pro Ser Lys Gln Ser Asn Asn  
     50                         55                         60  
 Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys  
     65                         70                         75                         80  
 Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val  
     85                         90                         95  
 Glu Lys Thr Val Ala Pro Thr Glu Cys Ser  
     100                      105

<210> 15  
 <211> 360  
 <212> PRT  
 <213> Homo sapiens

<400> 15

Met Val Ala Val Gly Cys Ala Leu Leu Ala Ala Leu Leu Ala Ala Pro  
     1                         5                         10                         15  
 Gly Ala Ala Leu Ala Pro Arg Arg Cys Pro Ala Gln Glu Val Ala Arg  
     20                         25                         30  
 Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val Thr Leu Thr Cys Pro  
     35                         40                         45  
 Gly Val Glu Pro Glu Asp Asn Ala Thr Val His Trp Val Leu Arg Lys  
     50                         55                         60  
 Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala Gly Met Gly Arg Arg  
     65                         70                         75                         80  
 Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys  
     85                         90                         95  
 Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val  
     100                      105                         110  
 Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser  
     115                      120                         125  
 Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr  
     130                      135                         140  
 Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp  
     145                      150                         155                         160  
 Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys  
     165                      170                         175  
 Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met

180	185	190
Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe		
195	200	205
Gln Gly Cys Gly Ile Leu Gln Pro Asp Pro Pro Ala Asn Ile Thr Val		
210	215	220
Thr Ala Val Ala Arg Asn Pro Arg Trp Leu Ser Val Thr Trp Gln Asp		
225	230	235
Pro His Ser Trp Asn Ser Ser Phe Tyr Arg Leu Arg Phe Glu Leu Arg		
245	250	255
Tyr Arg Ala Glu Arg Ser Lys Thr Phe Thr Thr Trp Met Val Lys Asp		
260	265	270
Leu Gln His His Cys Val Ile His Asp Ala Trp Ser Gly Leu Arg His		
275	280	285
Val Val Gln Leu Arg Ala Gln Glu Glu Phe Gly Gln Gly Glu Trp Ser		
290	295	300
Glu Trp Ser Pro Glu Ala Met Gly Thr Pro Trp Thr Glu Ser Arg Ser		
305	310	315
Pro Pro Ala Glu Asn Glu Val Ser Thr Pro Met Gln Ala Leu Thr Thr		
325	330	335
Asn Lys Asp Asp Asn Ile Leu Phe Arg Asp Ser Ala Asn Ala Thr		
340	345	350
Ser Leu Pro Val Gln Asp Ala Gly		
355	360	

<210> 16  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<400> 16			
Met Val Ala Val Gly Cys Ala Leu Leu Ala Ala Leu Leu Ala Ala Pro			
1	5	10	15
Gly Ala Ala Leu Ala Pro Arg Arg Cys Pro Ala Gln Glu Val Ala Arg			
20	25	30	
Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val Thr Leu Thr Cys Pro			
35	40	45	
Gly Val Glu Pro Glu Asp Asn Ala Thr Val His Trp Val Leu Arg Lys			
50	55	60	
Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala Gly Met Gly Arg Arg			
65	70	75	80
Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys			
85	90	95	
Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val			
100	105	110	
Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser			
115	120	125	
Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr			
130	135	140	
Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp			
145	150	155	160
Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys			
165	170	175	
Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met			
180	185	190	
Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe			
195	200	205	
Gln Gly Cys Gly Ile Leu Gln Pro Asp Pro Pro Ala Asn Ile Thr Val			
210	215	220	
Thr Ala Val Ala Arg Asn Pro Arg Trp Leu Ser Val Thr Trp Gln Asp			
225	230	235	240
Pro His Ser Trp Asn Ser Ser Phe Tyr Arg Leu Arg Phe Glu Leu Arg			

245	250	255
Tyr Arg Ala Glu Arg Ser Lys Thr Phe	Thr Thr Trp Met Val	Lys Asp
260	265	270
Leu Gln His His Cys Val Ile His Asp	Ala Trp Ser Gly	Leu Arg His
275	280	285
Val Val Gln Leu Arg Ala Gln Glu Glu	Phe Gly Gln Gly	Glu Trp Ser
290	295	300
Glu Trp Ser Pro Glu Ala Met Gly	Thr Thr Gly	
305	310	315

<210> 17  
<211> 2085  
<212> DNA  
<213> *Homo sapiens*

<220>  
<221> CDS  
<222> (1)...(2082)

<400> 17

atg gtg aag cca tca tta cca ttc aca tcc ctc tta ttc ctg cag ctg 48  
Met Val Lys Pro Ser Leu Pro Phe Thr Ser Leu Leu Phe Leu Gln Leu  
1 5 10 15

ccc ctg ctg gga gtg ggg ctg aac acg aca att ctg acg ccc aat ggg 96  
 Pro Leu Leu Gly Val Gly Leu Asn Thr Thr Ile Leu Thr Pro Asn Gly  
 20 25 30

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aat gaa gac acc aca gct gat ttc ttc ctg acc act atg ccc act gac 144
Asn Glu Asp Thr Thr Ala Asp Phe Phe Leu Thr Thr Met Pro Thr Asp
35          40          45 .

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tcc ctc agt gtt tcc act ctg ccc ctc cca gag gtt cag tgt ttt gtg      192
Ser Leu Ser Val Ser Thr Leu Pro Leu Pro Glu Val Gln Cys Phe Val
      50          55          60

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ttc aat gtc gag tac atg aat tgc act tgg aac agc agc tct gag ccc	240
Phe Asn Val Glu Tyr Met Asn Cys Thr Trp Asn Ser Ser Ser Glu Pro	
65 70 . 75 80	

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cag cct acc aac ctc act ctg cat tat tgg tac aag aac tcg gat aat      288
Gln Pro Thr Asn Leu Thr Leu His Tyr Trp Tyr Lys Asn Ser Asp Asn
          85          90          95

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gat aaa gtc cag aag tgc agc cac tat cta ttc tct gaa gaa atc act      336
Asp Lys Val Gln Lys Cys Ser His Tyr Leu Phe Ser Glu Glu Ile Thr
          100          105          110

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tct ggc tgt cag ttg caa aaa aag gag atc cac ctc tac caa aca ttt      384
Ser Gly Cys Gln Leu Gln Lys Lys Glu Ile His Leu Tyr Gln Thr Phe
          115      120      125
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gtt gtt cag ctc cag gac cca cgg gaa ccc agg aga cag gcc aca cag      432
Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln
   130      135      140

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atg cta aaa ctg cag aat ctg gtg atc ccc tgg gct cca gag aac cta 480  
Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu  
145 150 155 160 165 170

aca ttg gag aaa ctc act gaa tcc gag cta gaa ctc aac tgg aac aac 528

Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn			
165	170	175	
aga ttc ttg aac cac tgt ttg gag cac ttg gtg cag tac cgg act gac		576	
Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp			
180	185	190	
tgg gac cac agc tgg act gaa caa tca gtg gat tat aga cat aag ttc		624	
Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe			
195	200	205	
tcc ttg cct agt gtg gat ggg cag aaa cgc tac acg ttt cgt gtt cgg		672	
Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg			
210	215	220	
agc cgc ttt aac cca ctc tgt gga agt gct cag cat tgg agt gaa tgg		720	
Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp			
225	230	235	240
agc cac cca atc cac tgg ggg agc aat act tca aaa gag aac gcg tcg		768	
Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Ala Ser			
245	250	255	
tct ggg aac atg aag gtc ctg cag gag ccc acc tgc gtc tcc gac tac		816	
Ser Gly Asn Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr			
260	265	270	
atg agc atc tct act tgc gag tgg aag atg aat ggt ccc acc aat tgc		864	
Met Ser Ile Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys			
275	280	285	
agc acc gag ctc cgc ctg ttg tac cag ctg gtt ttt ctg ctc tcc gaa		912	
Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu			
290	295	300	
gcc cac acg tgt atc cct gag aac aac gga ggc gcg ggg tgc gtg tgc		960	
Ala His Thr Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys			
305	310	315	320
cac ctg ctc atg gat gac gtc agt gcg gat aac tat aca ctg gac		1008	
His Leu Leu Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp			
325	330	335	
ctg tgg gct ggg cag cag ctg ctg tgg aag ggc tcc ttc aag ccc agc		1056	
Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser			
340	345	350	
gag cat gtg aaa ccc agg gcc cca gga aac ctg aca gtt cac acc aat		1104	
Glu His Val Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn			
355	360	365	
gtc tcc gac act ctg ctg acc tgg agc aac ccg tat ccc cct gac		1152	
Val Ser Asp Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp			
370	375	380	
aat tac ctg tat aat cat ctc acc tat gca gtc aac att tgg agt gaa		1200	
Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser Glu			
385	390	395	400
aac gac ccg gca gat ttc aga atc tat aac gtg acc tac cta gaa ccc		1248	
Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro			

405	410	415	
tcc ctc cgc atc gca gcc agc acc ctg aag tct ggg att tcc tac agg Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg 420	425	430	1296
gca cgg gtg agg gcc tgg gct cag tgc tat aac acc acc tgg agt gag Ala Arg Val Arg Ala Trp Ala Gln Cys Tyr Asn Thr Thr Trp Ser Glu 435	440	445	1344
tgg agc ccc agc acc aag tgg cac aac tcc tac agg gag ccc ttc gag Trp Ser Pro Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu 450	455	460	1392
cag tcc gga gac aaa act cac aca tgc cca ccg tgc cca gca cct gaa Gln Ser Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu 465	470	475	1440
ctc ctg ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp 485	490	495	1488
acc ctc atg atc tcc cgg acc cct gag gtc aca tgc gtg gtg gtg gac Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp 500	505	510	1536
gtg agc cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly 515	520	525	1584
gtg gag gtg cat aat gcc aag aca aag ccg cgg gag gag cag tac aac Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn 530	535	540	1632
agc acg tac cgt gtc agc gtc ctc acc gtc ctg cac cag gac tgg Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp 545	550	555	1680
ctg aat ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro 565	570	575	1728
gcc ccc atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu 580	585	590	1776
cca cag gtg tac acc ctg ccc cca tcc cgg gag gag atg acc aag aac Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn 595	600	605	1824
cag gtc agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile 610	615	620	1872
gcc gtg gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr 625	630	635	1920
acg cct ccc gtg ctg gac tcc gac ggc tcc ttc ttc ctc tat agc aag Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 645	650	655	1968

ctc acc gtg gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc 2016  
Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys  
660 665 670

tcc gtg atg cat gag gct ctg cac aac cac tac acg cag aag agc ctc 2064  
Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu  
675 680 685

tcc ctg tct ccg ggt aaa tga 2085  
Ser Leu Ser Pro Gly Lys  
690

<210> 18  
<211> 694  
<212> PRT  
<213> Homo sapiens

<400> 18  
Met Val Lys Pro Ser Leu Pro Phe Thr Ser Leu Leu Phe Leu Gln Leu  
1 5 10 15  
Pro Leu Leu Gly Val Gly Leu Asn Thr Thr Ile Leu Thr Pro Asn Gly  
20 25 30  
Asn Glu Asp Thr Thr Ala Asp Phe Phe Leu Thr Thr Met Pro Thr Asp  
35 40 45  
Ser Leu Ser Val Ser Thr Leu Pro Leu Pro Glu Val Gln Cys Phe Val  
50 55 60  
Phe Asn Val Glu Tyr Met Asn Cys Thr Trp Asn Ser Ser Ser Glu Pro  
65 70 75 80  
Gln Pro Thr Asn Leu Thr Leu His Tyr Trp Tyr Lys Asn Ser Asp Asn  
85 90 95  
Asp Lys Val Gln Lys Cys Ser His Tyr Leu Phe Ser Glu Glu Ile Thr  
100 105 110  
Ser Gly Cys Gln Leu Gln Lys Glu Ile His Leu Tyr Gln Thr Phe  
115 120 125  
Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln  
130 135 140  
Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu  
145 150 155 160  
Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn  
165 170 175  
Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp  
180 185 190  
Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe  
195 200 205  
Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg  
210 215 220  
Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp  
225 230 235 240  
Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Ala Ser  
245 250 255  
Ser Gly Asn Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr  
260 265 270  
Met Ser Ile Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys  
275 280 285  
Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu  
290 295 300  
Ala His Thr Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys  
305 310 315 320  
His Leu Leu Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp

325	330	335	
Leu Trp Ala Gly Gln Gln	Leu Trp Lys Gly Ser Phe Lys	Pro Ser	
340	345	350	
Glu His Val Lys Pro Arg Ala Pro	Gly Asn Leu Thr Val His	Thr Asn	
355	360	365	
Val Ser Asp Thr Leu Leu Leu	Thr Trp Ser Asn Pro	Tyr Pro Pro Asp	
370	375	380	
Asn Tyr Leu Tyr Asn His	Leu Thr Tyr Ala Val	Asn Ile Trp Ser Glu	
385	390	395	400
Asn Asp Pro Ala Asp Phe Arg	Ile Tyr Asn Val	Thr Tyr Leu Glu Pro	
405	410	415	
Ser Leu Arg Ile Ala Ala Ser	Thr Leu Lys Ser Gly	Ile Ser Tyr Arg	
420	425	430	
Ala Arg Val Arg Ala Trp Ala	Gln Cys Tyr Asn Thr	Thr Trp Ser Glu	
435	440	445	
Trp Ser Pro Ser Thr Lys	Trp His Asn Ser Tyr	Arg Glu Pro Phe Glu	
450	455	460	
Gln Ser Gly Asp Lys Thr His	Thr Cys Pro Pro Cys	Pro Ala Pro Glu	
465	470	475	480
Leu Leu Gly Gly Pro Ser Val	Phe Leu Phe Pro Pro	Lys Pro Lys Asp	
485	490	495	
Thr Leu Met Ile Ser Arg Thr	Pro Glu Val Thr Cys	Val Val Val Asp	
500	505	510	
Val Ser His Glu Asp Pro Glu	Val Lys Phe Asn Trp	Tyr Val Asp Gly	
515	520	525	
Val Glu Val His Asn Ala Lys	Thr Lys Pro Arg	Glu Glu Gln Tyr Asn	
530	535	540	
Ser Thr Tyr Arg Val Val	Ser Val Leu Thr Val	Leu His Gln Asp Trp	
545	550	555	560
Leu Asn Gly Lys Glu Tyr Lys	Cys Lys Val Ser Asn	Lys Ala Leu Pro	
565	570	575	
Ala Pro Ile Glu Lys Thr Ile	Ser Lys Ala Lys Gly	Gln Pro Arg Glu	
580	585	590	
Pro Gln Val Tyr Thr Leu Pro	Pro Ser Arg Glu	Glu Met Thr Lys Asn	
595	600	605	
Gln Val Ser Leu Thr Cys	Leu Val Lys Gly Phe	Tyr Pro Ser Asp Ile	
610	615	620	
Ala Val Glu Trp Glu Ser	Asn Gly Gln Pro	Glu Asn Asn Tyr Lys Thr	
625	630	635	640
Thr Pro Pro Val Leu Asp	Ser Asp Gly Ser	Phe Phe Leu Tyr Ser Lys	
645	650	655	
Leu Thr Val Asp Lys Ser	Arg Trp Gln Gln Gly	Asn Val Phe Ser Cys	
660	665	670	
Ser Val Met His Glu Ala Leu	His Asn His Tyr Thr	Gln Lys Ser Leu	
675	680	685	
Ser Leu Ser Pro Gly Lys			
690			

<210> 19  
 <211> 2076  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(2073)

<400> 19

atg gtg aag cca tca tta cca ttc aca tcc ctc tta ttc ctg cag ctg  
 Met Val Lys Pro Ser Leu Pro Phe Thr Ser Leu Leu Phe Leu Gln Leu  
 1 5 10 15

ccc ctg ctg gga gtg ggg ctg aac acg aca att ctg acg ccc aat ggg	96
Pro Leu Leu Gly Val Gly Leu Asn Thr Thr Ile Leu Thr Pro Asn Gly	
20 25 30	
aat gaa gac acc aca gct gat ttc ttc ctg acc act atg ccc act gac	144
Asn Glu Asp Thr Thr Ala Asp Phe Phe Leu Thr Thr Met Pro Thr Asp	
35 40 45	
tcc ctc agt gtt tcc act ctg ccc ctc cca gag gtt cag tgt ttt gtg	192
Ser Leu Ser Val Ser Thr Leu Pro Leu Pro Glu Val Gln Cys Phe Val	
50 55 60	
ttc aat gtc gag tac atg aat tgc act tgg aac agc agc tct gag ccc	240
Phe Asn Val Glu Tyr Met Asn Cys Thr Trp Asn Ser Ser Glu Pro	
65 70 75 80	
cag cct acc aac ctc act ctg cat tat tgg tac aag aac tcg gat aat	288
Gln Pro Thr Asn Leu Thr Leu His Tyr Trp Tyr Lys Asn Ser Asp Asn	
85 90 95	
gat aaa gtc cag aag tgc agc cac tat cta ttc tct gaa gaa atc act	336
Asp Lys Val Gln Lys Cys Ser His Tyr Leu Phe Ser Glu Glu Ile Thr	
100 105 110	
tct ggc tgt cag ttg caa aaa aag gag atc cac ctc tac caa aca ttt	384
Ser Gly Cys Gln Leu Gln Lys Glu Ile His Leu Tyr Gln Thr Phe	
115 120 125	
gtt gtt cag ctc cag gac cca cgg gaa ccc agg aga cag gcc aca cag	432
Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln	
130 135 140	
atg cta aaa ctg cag aat ctg gtg atc ccc tgg gct cca gag aac cta	480
Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu	
145 150 155 160	
aca ctt cac aaa ctg agt gaa tcc cag cta gaa ctg aac tgg aac aac	528
Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn	
165 170 175	
aga ttc ttg aac cac tac tgt ttg gag cac ttg gtg cag tac cgg act gac	576
Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp	
180 185 190	
tgg gac cac agc tgg act gaa caa tca gtg gat tat aga cat aag ttc	624
Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe	
195 200 205	
tcc ttg cct agt gtg gat ggg cag aaa cgc tac acg ttt cgt gtt cgg	672
Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg	
210 215 220	
agc cgc ttt aac cca ctc tgt gga agt gct cag cat tgg agt gaa tgg	720
Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp	
225 230 235 240	
agc cac cca atc cac tgg ggg agc aat act tca aaa gag aac ggg aac	768
Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Gly Asn	
245 250 255	

atg aag gtc ctg cag gag ccc acc tgc gtc tcc gac tac atg agc atc Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr Met Ser Ile 260 265 270	816
tct act tgc gag tgg aag atg aat ggt ccc acc aat tgc agc acc gag Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys Ser Thr Glu 275 280 285	864
ctc cgc ctg ttg tac cag ctg gtt ttt ctg ctc tcc gaa gcc cac acg Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu Ala His Thr 290 295 300	912
tgt atc cct gag aac aac gga ggc gcg ggg tgc gtg tgc cac ctg ctc Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys His Leu Leu 305 310 315 320	960
atg gat gac gtg gtc agt gcg gat aac tat aca ctg gac ctg tgg gct Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp Leu Trp Ala 325 330 335	1008
ggg cag cag ctg ctg tgg aag ggc tcc ttc aag ccc agc gag cat gtg Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser Glu His Val 340 345 350	1056
aaa ccc agg gcc cca gga aac ctg aca gtt cac acc aat gtc tcc gac Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn Val Ser Asp 355 360 365	1104
act ctg ctg ctg acc tgg agc aac ccg tat ccc cct gac aat tac ctg Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp Asn Tyr Leu 370 375 380	1152
tat aat cat ctc acc tat gca gtc aac att tgg agt gaa aac gac ccg Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser Glu Asn Asp Pro 385 390 395 400	1200
gca gat ttc aga atc tat aac gtg acc tac cta gaa ccc tcc ctc cgc Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro Ser Leu Arg 405 410 415	1248
atc gca gcc agc acc ctg aag tct ggg att tcc tac agg gca cgg gtg Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg Ala Arg Val 420 425 430	1296
agg gcc tgg gct cag agc tat aac acc acc tgg agt gag tgg agc ccc Arg Ala Trp Ala Gln Ser Tyr Asn Thr Thr Trp Ser Glu Trp Ser Pro 435 440 445	1344
agc acc aag tgg cac aac tcc tac agg gag ccc ttc gag cag tcc gga Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu Gln Ser Gly 450 455 460	1392
gac aaa act cac aca tgc cca ccg tgc cca gca cct gaa ctc ctg ggg Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly 465 470 475 480	1440
gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc atg Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met 485 490 495	1488
atc tcc cgg acc cct gag gtc aca tgc gtg gtg gac gtg agc cac	1536

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His			
500	505	510	
gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag gtg		1584	
Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val			
515	520	525	
cat aat gcc aag aca aag ccg cgg gag gag cag tac aac agc acg tac		1632	
His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr			
530	535	540	
cgt gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat ggc		1680	
Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly			
545	550	555	560
aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc atc		1728	
Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile			
565	570	575	
gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag gtg		1776	
Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val			
580	585	590	
tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac cag gtc agc		1824	
Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser			
595	600	605	
ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg gag		1872	
Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu			
610	615	620	
tgg gag agc aat ggg cag ccg gag aac aac tac aag acc acg cct ccc		1920	
Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro			
625	630	635	640
gtg ctg gac tcc gac ggc tcc ttc ttc ctc tat agc aag ctc acc gtg		1968	
Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val			
645	650	655	
gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg atg		2016	
Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met			
660	665	670	
cat gag gct ctg cac aac cac tac acg cag aag agc ctc tcc ctg tct		2064	
His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser			
675	680	685	
ccg ggt aaa tga		2076	
Pro Gly Lys			
690			

<210> 20  
 <211> 691  
 <212> PRT  
 <213> Homo sapiens

<400> 20

Met Val Lys Pro Ser Leu Pro Phe Thr Ser Leu Leu Phe Leu Gln Leu  
 1 5 10 15  
 Pro Leu Leu Gly Val Gly Leu Asn Thr Thr Ile Leu Thr Pro Asn Gly

20	25	30	
Asn Glu Asp Thr Thr Ala Asp Phe Phe Leu Thr Thr Met Pro Thr Asp			
35	40	45	
Ser Leu Ser Val Ser Thr Leu Pro Leu Pro Glu Val Gln Cys Phe Val			
50	55	60	
Phe Asn Val Glu Tyr Met Asn Cys Thr Trp Asn Ser Ser Ser Glu Pro			
65	70	75	80
Gln Pro Thr Asn Leu Thr Leu His Tyr Trp Tyr Lys Asn Ser Asp Asn			
85	90	95	
Asp Lys Val Gln Lys Cys Ser His Tyr Leu Phe Ser Glu Glu Ile Thr			
100	105	110	
Ser Gly Cys Gln Leu Gln Lys Lys Glu Ile His Leu Tyr Gln Thr Phe			
115	120	125	
Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln			
130	135	140	
Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu			
145	150	155	160
Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn			
165	170	175	
Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp			
180	185	190	
Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe			
195	200	205	
Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg			
210	215	220	
Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp			
225	230	235	240
Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Gly Asn			
245	250	255	
Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr Met Ser Ile			
260	265	270	
Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys Ser Thr Glu			
275	280	285	
Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu Ala His Thr			
290	295	300	
Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys His Leu Leu			
305	310	315	320
Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp Leu Trp Ala			
325	330	335	
Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser Glu His Val			
340	345	350	
Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn Val Ser Asp			
355	360	365	
Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp Asn Tyr Leu			
370	375	380	
Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser Glu Asn Asp Pro			
385	390	395	400
Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro Ser Leu Arg			
405	410	415	
Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg Ala Arg Val			
420	425	430	
Arg Ala Trp Ala Gln Ser Tyr Asn Thr Thr Trp Ser Glu Trp Ser Pro			
435	440	445	
Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu Gln Ser Gly			
450	455	460	
Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly			
465	470	475	480
Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met			
485	490	495	
Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His			
500	505	510	

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val  
 515 520 525  
 His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr  
 530 535 540  
 Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly  
 545 550 555 560  
 Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile  
 565 570 575  
 Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val  
 580 585 590  
 Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser  
 595 600 605  
 Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu  
 610 615 620  
 Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
 625 630 635 640  
 Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val  
 645 650 655  
 Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
 660 665 670  
 His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser  
 675 680 685  
 Pro Gly Lys  
 690

<210> 21  
 <211> 2085  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(2082)

<400> 21

atg	gtg	aag	cca	tca	tta	cca	ttc	aca	tcc	ctc	tta	ttc	ctg	cag	ctg		48
Met	Val	Lys	Pro	Ser	Leu	Pro	Phe	Thr	Ser	Leu	Leu	Phe	Leu	Gln	Leu		
1			5					10						15			

ccc	ctg	ctg	gga	gtg	ggg	ctg	aac	acg	aca	att	ctg	acg	ccc	aat	ggg		96
Pro	Leu	Leu	Gly	Val	Gly	Leu	Asn	Thr	Thr	Ile	Leu	Thr	Pro	Asn	Gly		
20								25						30.			

aat	gaa	gac	acc	aca	gct	gat	ttc	ttc	ctg	acc	act	atg	ccc	act	gac		144
Asn	Glu	Asp	Thr	Thr	Ala	Asp	Phe	Phe	Leu	Thr	Thr	Met	Pro	Thr	Asp		
35							40					45					

tcc	ctc	agt	gtt	tcc	act	ctg	ccc	ctc	cca	gag	gtt	cag	tgt	ttt	gtg		192
Ser	Leu	Ser	Val	Ser	Thr	Leu	Pro	Leu	Pro	Glu	Val	Gln	Cys	Phe	Val		
50							55					60					

ttc	aat	gtc	gag	tac	atg	aat	tgc	act	tgg	aac	agc	agc	tct	gag	ccc		240
Phe	Asn	Val	Glu	Tyr	Met	Asn	Cys	Thr	Trp	Asn	Ser	Ser	Ser	Glu	Pro		
65								70						80			

cag	cct	acc	aac	ctc	act	ctg	cat	tat	tgg	tac	aag	aac	tcg	gat	aat		288
Gln	Pro	Thr	Asn	Leu	Thr	Leu	His	Tyr	Trp	Tyr	Lys	Asn	Ser	Asp	Asn		
85								90						95			

gat	aaa	gtc	cag	aag	tgc	agc	cac	tat	cta	ttc	tct	gaa	gaa	atc	act		336
Asp	Lys	Val	Gln	Lys	Cys	Ser	His	Tyr	Trp	Tyr	Lys	Asn	Ser	Asp	Asn		

100	105	110	
tct ggc tgt cag ttg caa aaa aag gag atc cac ctc tac caa aca aca ttt Ser Gly Cys Gln Leu Gln Lys Lys Glu Ile His Leu Tyr Gln Thr Phe 115 120 125			384
gtt gtt cag ctc cag gac cca cgg gaa ccc agg aga cag gcc aca cag Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln 130 135 140			432
atg cta aaa ctg cag aat ctg gtg atc ccc tgg gct cca gag aac cta Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu 145 150 155 160			480
aca ctt cac aaa ctg agt gaa tcc cag cta gaa ctg aac tgg aac aac Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn 165 170 175			528
aga ttc ttg aac cac tgt ttg gag cac ttg gtg cag tac cgg act gac Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp 180 185 190			576
tgg gac cac agc tgg act gaa caa tca gtg gat tat aga cat aag ttc Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe 195 200 205			624
tcc ttg cct agt gtg gat ggg cag aaa cgc tac acg ttt cgt gtt cgg Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg 210 215 220			672
agc cgc ttt aac cca ctc tgt gga agt gct cag cat tgg agt gaa tgg Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp 225 230 235 240			720
agc cac cca atc cac tgg ggg agc aat act tca aaa gag aac gcg tcg Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Ala Ser 245 250 255			768
tct ggg aac atg aag gtc ctg cag gag ccc acc tgc gtc tcc gac tac Ser Gly Asn Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr 260 265 270			816
atg agc atc tct act tgc gag tgg aag atg aat ggt ccc acc aat tgc Met Ser Ile Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys 275 280 285			864
agc acc gag ctc cgc ctg ttg tac cag ctg gtt ttt ctg ctc tcc gaa Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu 290 295 300			912
gcc cac acg tgt atc cct gag aac aac gga ggc gcg ggg tgc gtg tgc Ala His Thr Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys 305 310 315 320			960
cac ctg ctc atg gat gac gtg gtc agt gcg gat aac tat aca ctg gac His Leu Leu Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp 325 330 335			1008
ctg tgg gct ggg cag cag ctg ctg tgg aag ggc tcc ttc aag ccc agc Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser 340 345 350			1056

gag cat gtg aaa ccc agg gcc cca gga aac ctg aca gtt cac acc aat Glu His Val Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn 355 360 365	1104
gtc tcc gac act ctg ctg acc tgg agc aac ccg tat ccc cct gac Val Ser Asp Thr Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp 370 375 380	1152
aat tac ctg tat aat cat ctc acc tat gca gtc aac att tgg agt gaa Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser Glu 385 390 395 400	1200
aac gac ccg gca gat ttc aga atc tat aac gtg acc tac cta gaa ccc Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro 405 410 415	1248
tcc ctc cgc atc gca gcc agc acc ctg aag tct ggg att tcc tac agg Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg 420 425 430	1296
gca cgg gtg agg gcc tgg gct cag agc tat aac acc acc tgg agt gag Ala Arg Val Arg Ala Trp Ala Gln Ser Tyr Asn Thr Thr Trp Ser Glu 435 440 445	1344
tgg agc ccc agc acc aag tgg cac aac tcc tac agg gag ccc ttc gag Trp Ser Pro Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu 450 455 460	1392
cag tcc gga gac aaa act cac aca tgc cca ccg tgc cca gca cct gaa Gln Ser Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu 465 470 475 480	1440
ctc ctg ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp 485 490 495	1488
acc ctc atg atc tcc cgg acc cct gag gtc aca tgc gtg gtg gtg gac Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp 500 505 510	1536
gtg agc cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly 515 520 525	1584
gtg gag gtg cat aat gcc aag aca aag ccg cgg gag gag cag tac aac Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn 530 535 540	1632
agc acg tac cgt gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp 545 550 555 560	1680
ctg aat ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro 565 570 575	1728
gcc ccc atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu 580 585 590	1776

cca cag gtg tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn 595 600 605	1824
cag gtc agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile 610 615 620	1872
gcc gtg gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr 625 630 635 640	1920
acg cct ccc gtg ctg gac tcc gac ggc tcc ttc ctc tat agc aag Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 645 650 655	1968
ctc acc gtg gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys 660 665 670	2016
tcc gtg atg cat gag gct ctg cac aac cac tac acg cag aag agc ctc Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu 675 680 685	2064
tcc ctg tct ccg ggt aaa tga Ser Leu Ser Pro Gly Lys 690	2085

<210> 22  
 <211> 694  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Met Val Lys Pro Ser Leu Pro Phe Thr Ser Leu Leu Phe Leu Gln Leu  
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 20 25 30  
 Asn Glu Asp Thr Thr Ala Asp Phe Phe Leu Thr Thr Met Pro Thr Asp  
 35 40 45  
 Ser Leu Ser Val Ser Thr Leu Pro Leu Pro Glu Val Gln Cys Phe Val  
 50 55 60  
 Phe Asn Val Glu Tyr Met Asn Cys Thr Trp Asn Ser Ser Ser Glu Pro  
 65 70 75 80  
 Gln Pro Thr Asn Leu Thr Leu His Tyr Trp Tyr Lys Asn Ser Asp Asn  
 85 90 95  
 Asp Lys Val Gln Lys Cys Ser His Tyr Leu Phe Ser Glu Glu Ile Thr  
 100 105 110  
 Ser Gly Cys Gln Leu Gln Lys Lys Glu Ile His Leu Tyr Gln Thr Phe  
 115 120 125  
 Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln  
 130 135 140  
 Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu  
 145 150 155 160  
 Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn  
 165 170 175  
 Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp  
 180 185 190  
 Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe  
 195 200 205

Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg  
 210 215 220  
 Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp  
 225 230 235 240  
 Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Ala Ser  
 245 250 255  
 Ser Gly Asn Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr  
 260 265 270  
 Met Ser Ile Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys  
 275 280 285  
 Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu  
 290 295 300  
 Ala His Thr Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys  
 305 310 315 320  
 His Leu Leu Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp  
 325 330 335  
 Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser  
 340 345 350  
 Glu His Val Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn  
 355 360 365  
 Val Ser Asp Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp  
 370 375 380  
 Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser Glu  
 385 390 395 400  
 Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro  
 405 410 415  
 Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg  
 420 425 430  
 Ala Arg Val Arg Ala Trp Ala Gln Ser Tyr Asn Thr Thr Trp Ser Glu  
 435 440 445  
 Trp Ser Pro Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu  
 450 455 460  
 Gln Ser Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu  
 465 470 475 480  
 Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp  
 485 490 495  
 Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp  
 500 505 510  
 Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly  
 515 520 525  
 Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn  
 530 535 540  
 Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp  
 545 550 555 560  
 Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro  
 565 570 575  
 Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu  
 580 585 590  
 Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn  
 595 600 605  
 Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile  
 610 615 620  
 Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr  
 625 630 635 640  
 Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys  
 645 650 655  
 Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys  
 660 665 670  
 Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu  
 675 680 685  
 Ser Leu Ser Pro Gly Lys

690

<210> 23  
<211> 3507  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (1)...(3504)

<400> 23  
atg gtg gcc gtc ggc tgc gcg ctg ctg gct gcc ctg ctg gcc gcg ccg 48  
Met Val Ala Val Gly Cys Ala Leu Leu Ala Ala Leu Leu Ala Ala Pro  
1 5 10 15  
gga gcg gcg ctg gcc cca agg cgc tgc cct gcg cag gag gtg gca aga 96  
Gly Ala Ala Leu Ala Pro Arg Arg Cys Pro Ala Gln Glu Val Ala Arg  
20 25 30  
ggc gtg ctg acc agt ctg cca gga gac agc gtg act ctg acc tgc ccg 144  
Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val Thr Leu Thr Cys Pro  
35 40 45  
ggg gta gag ccg gaa gac aat gcc act gtt cac tgg gtg ctc agg aag 192  
Gly Val Glu Pro Glu Asp Asn Ala Thr Val His Trp Val Leu Arg Lys  
50 55 60  
ccg gct gca ggc tcc cac ccc agc aga tgg gct ggc atg gga agg agg 240  
Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala Gly Met Gly Arg Arg  
65 70 75 80  
ctg ctg ctg agg tcg gtg cag ctc cac gac tct gga aac tat tca tgc 288  
Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys  
85 90 95  
tac cgg gcc ggc cgc cca gct ggg act gtg cac ttg ctg gtg gat gtt 336  
Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val  
100 105 110  
ccc ccc gag gag ccc cag ctc tcc tgc ttc cgg aag agc ccc ctc agc 384  
Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser  
115 120 125  
aat gtt gtt tgt gag tgg ggt cct cgg agc acc cca tcc ctg acg aca 432  
Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr  
130 135 140  
aag gct gtg ctc ttg gtg agg aag ttt cag aac agt ccg gcc gaa gac 480  
Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp  
145 150 155 160  
ttc cag gag ccg tgc cag tat tcc cag gag tcc cag aag ttc tcc tgc 528  
Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys  
165 170 175  
cag tta gca gtc ccg gag gga gac agc tct ttc tac ata gtg tcc atg 576  
Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met  
180 185 190  
tgc gtc gcc agt agt gtc ggg agc aag ttc agc aaa act caa acc ttt 624

Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe			
195	200	205	
cag ggt tgt gga atc ttg cag cct gat ccg cct gcc aac atc aca gtc			672
Gln Gly Cys Gly Ile Leu Gln Pro Asp Pro Pro Ala Asn Ile Thr Val			
210	215	220	
act gcc gtg gcc aga aac ccc cgc tgg ctc agt gtc acc tgg caa gac			720
Thr Ala Val Ala Arg Asn Pro Arg Trp Leu Ser Val Thr Trp Gln Asp			
225	230	235	240
ccc cac tcc tgg aac tca tct ttc tac aga cta cgg ttt gag ctc aga			768
Pro His Ser Trp Asn Ser Ser Phe Tyr Arg Leu Arg Phe Glu Leu Arg			
245	250	255	
tat cgg gct gaa cgg tca aag aca ttc aca aca tgg atg gtc aag gac			816
Tyr Arg Ala Glu Arg Ser Lys Thr Phe Thr Thr Trp Met Val Lys Asp			
260	265	270	
ctc cag cat cac tgt gtc atc cac gac gcc tgg agc ggc ctg agg cac			864
Leu Gln His His Cys Val Ile His Asp Ala Trp Ser Gly Leu Arg His			
275	280	285	
gtg gtg cag ctt cgt gcc cag gag gag ttc ggg caa ggc gag tgg agc			912
Val Val Gln Leu Arg Ala Gln Glu Glu Phe Gly Gln Gly Glu Trp Ser			
290	295	300	
gag tgg agc ccg gag gcc atg ggc acg cct tgg aca gaa tcc agg agt			960
Glu Trp Ser Pro Glu Ala Met Gly Thr Pro Trp Thr Glu Ser Arg Ser			
305	310	315	320
cct cca gct gag aac gag gtg tcc acc ccc atg acc ggt ggc gcg cct			1008
Pro Pro Ala Glu Asn Glu Val Ser Thr Pro Met Thr Gly Gly Ala Pro			
325	330	335	
tca ggt gct cag ctg gaa ctt cta gac cca tgt ggt tat atc agt cct			1056
Ser Gly Ala Gln Leu Glu Leu Asp Pro Cys Gly Tyr Ile Ser Pro			
340	345	350	
gaa tct cca gtt gta caa ctt cat tct aat ttc act gca gtt tgt gtg			1104
Glu Ser Pro Val Val Gln Leu His Ser Asn Phe Thr Ala Val Cys Val			
355	360	365	
cta aag gaa aaa tgt atg gat tat ttt cat gta aat gct aat tac att			1152
Leu Lys Glu Lys Cys Met Asp Tyr Phe His Val Asn Ala Asn Tyr Ile			
370	375	380	
gtc tgg aaa aca aac cat ttt act att cct aag gag caa tat act atc			1200
Val Trp Lys Thr Asn His Phe Thr Ile Pro Lys Glu Gln Tyr Thr Ile			
385	390	395	400
ata aac aga aca gca tcc agt gtc acc ttt aca gat ata gct tca tta			1248
Ile Asn Arg Thr Ala Ser Ser Val Thr Phe Thr Asp Ile Ala Ser Leu			
405	410	415	
aat att cag ctc act tgc aac att ctt aca ttc gga cag ctt gaa cag			1296
Asn Ile Gln Leu Thr Cys Asn Ile Leu Thr Phe Gly Gln Leu Glu Gln			
420	425	430	
aat gtt tat gga atc aca ata att tca ggc ttg cct cca gaa aaa cct			1344
Asn Val Tyr Gly Ile Thr Ile Ser Gly Leu Pro Pro Glu Lys Pro			

435

440

445

aaa aat ttg agt tgc att gtg aac gag ggg aag aaa atg agg tgt gag Lys Asn Leu Ser Cys Ile Val Asn Glu Gly Lys Lys Met Arg Cys Glu 450	455	460	1392	
tgg gat ggt gga agg gaa aca cac ttg gag aca aac ttc act tta aaa Trp Asp Gly Gly Arg Glu Thr His Leu Glu Thr Asn Phe Thr Leu Lys 465	470	475	480	1440
tct gaa tgg gca aca cac aag ttt gct gat tgc aaa gca aaa cgt gac Ser Glu Trp Ala Thr His Phe Ala Asp Cys Lys Ala Lys Arg Asp 485	490	495	1488	
acc ccc acc tca tgc act gtt gat tat tct act gtg tat ttt gtc aac Thr Pro Thr Ser Cys Thr Val Asp Tyr Ser Thr Val Tyr Phe Val Asn 500	505	510	1536	
att gaa gtc tgg gta gaa gca gag aat gcc ctt ggg aag gtt aca tca Ile Glu Val Trp Val Glu Ala Glu Asn Ala Leu Gly Lys Val Thr Ser 515	520	525	1584	
gat cat atc aat ttt gat cct gta tat aaa gtg aag ccc aat ccg cca Asp His Ile Asn Phe Asp Pro Val Tyr Lys Val Lys Pro Asn Pro Pro 530	535	540	1632	
cat aat tta tca gtg atc aac tca gag gaa ctg tct agt atc tta aaa His Asn Leu Ser Val Ile Asn Ser Glu Glu Leu Ser Ser Ile Leu Lys 545	550	555	560	1680
ttg aca tgg acc aac cca agt att aag agt gtt ata ata cta aaa tat Leu Thr Trp Thr Asn Pro Ser Ile Lys Ser Val Ile Ile Leu Lys Tyr 565	570	575	1728	
aac att caa tat agg acc aaa gat gcc tca act tgg agc cag att cct Asn Ile Gln Tyr Arg Thr Lys Asp Ala Ser Thr Trp Ser Gln Ile Pro 580	585	590	1776	
cct gaa gac aca gca tcc acc cga tct tca ttc act gtc caa gac ctt Pro Glu Asp Thr Ala Ser Thr Arg Ser Ser Phe Thr Val Gln Asp Leu 595	600	605	1824	
aaa cct ttt aca gaa tat gtg ttt agg att cgc tgt atg aag gaa gat Lys Pro Phe Thr Glu Tyr Val Phe Arg Ile Arg Cys Met Lys Glu Asp 610	615	620	1872	
ggt aag gga tac tgg agt gac tgg agt gaa gaa gca agt ggg atc acc Gly Lys Gly Tyr Trp Ser Asp Trp Ser Glu Glu Ala Ser Gly Ile Thr 625	630	635	640	1920
tat gaa gat aga cca tct aaa gca cca agt ttc tgg tat aaa ata gat Tyr Glu Asp Arg Pro Ser Lys Ala Pro Ser Phe Trp Tyr Lys Ile Asp 645	650	655	1968	
cca tcc cat act caa ggc tac aga act gta caa ctc gtg tgg aag aca Pro Ser His Thr Gln Gly Tyr Arg Thr Val Gln Leu Val Trp Lys Thr 660	665	670	2016	
ttg cct cct ttt gaa gcc aat gga aaa atc ttg gat tat gaa gtg act Leu Pro Pro Phe Glu Ala Asn Gly Lys Ile Leu Asp Tyr Glu Val Thr 675	680	685	2064	

ctc aca aga tgg aaa tca cat tta caa aat tac aca gtt aat gcc aca Leu Thr Arg Trp Lys Ser His Leu Gln Asn Tyr Thr Val Asn Ala Thr 690 695 700	2112
aaa ctg aca gta aat ctc aca aat gat cgc tat cta gca acc cta aca Lys Leu Thr Val Asn Leu Thr Asn Asp Arg Tyr Leu Ala Thr Leu Thr 705 710 715 720	2160
gta aga aat ctt gtt ggc aaa tca gat gca gct gtt tta act atc cct Val Arg Asn Leu Val Gly Lys Ser Asp Ala Ala Val Leu Thr Ile Pro 725 730 735	2208
gcc tgt gac ttt caa gct act cac cct gta atg gat ctt aaa gca ttc Ala Cys Asp Phe Gln Ala Thr His Pro Val Met Asp Leu Lys Ala Phe 740 745 750	2256
ccc aaa gat aac atg ctt tgg gtg gaa tgg act act cca agg gaa tct Pro Lys Asp Asn Met Leu Trp Val Glu Trp Thr Thr Pro Arg Glu Ser 755 760 765	2304
gta aag aaa tat ata ctt gag tgg tgt gtg tta tca gat aaa gca ccc Val Lys Lys Tyr Ile Leu Glu Trp Cys Val Leu Ser Asp Lys Ala Pro 770 775 780	2352
tgt atc aca gac tgg caa caa gaa gat ggt acc gtg cat cgc acc tat Cys Ile Thr Asp Trp Gln Gln Glu Asp Gly Thr Val His Arg Thr Tyr 785 790 795 800	2400
tta aga ggg aac tta gca gag agc aaa tgc tat ttg ata aca gtt act Leu Arg Gly Asn Leu Ala Glu Ser Lys Cys Tyr Leu Ile Thr Val Thr 805 810 815	2448
cca gta tat gct gat gga cca gga agc cct gaa tcc ata aag gca tac Pro Val Tyr Ala Asp Gly Pro Gly Ser Pro Glu Ser Ile Lys Ala Tyr 820 825 830	2496
ctt aaa caa gct cca cct tcc aaa gga cct act gtt cgg aca aaa aaa Leu Lys Gln Ala Pro Pro Ser Lys Gly Pro Thr Val Arg Thr Lys Lys 835 840 845	2544
gta ggg aaa aac gaa gct gtc tta gag tgg gac caa ctt cct gtt gat Val Gly Lys Asn Glu Ala Val Leu Glu Trp Asp Gln Leu Pro Val Asp 850 855 860	2592
gtt cag aat gga ttt atc aga aat tat act ata ttt tat aga acc atc Val Gln Asn Gly Phe Ile Arg Asn Tyr Thr Ile Phe Tyr Arg Thr Ile 865 870 875 880	2640
att gga aat gaa act gct gtg aat gtg gat tct tcc cac aca gaa tat Ile Gly Asn Glu Thr Ala Val Asn Val Asp Ser Ser His Thr Glu Tyr 885 890 895	2688
aca ttg tcc tct ttg act agt gac aca ttg tac atg gta cga atg gca Thr Leu Ser Ser Leu Thr Ser Asp Thr Leu Tyr Met Val Arg Met Ala 900 905 910	2736
gca tac aca gat gaa ggt ggg aag gat ggt cca gaa ttc act ttt act Ala Tyr Thr Asp Glu Gly Gly Lys Asp Gly Pro Glu Phe Thr Phe Thr 915 920 925	2784

acc cca aag ttt gct caa gga gaa att gaa tcc ggg ggc gac aaa act Thr Pro Lys Phe Ala Gln Gly Glu Ile Glu Ser Gly Gly Asp Lys Thr 930 935 940	2832
cac aca tgc cca ccg tgc cca gca cct gaa ctc ctg ggg gga ccg tca His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser 945 950 955 960	2880
gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc atg atc tcc cgg Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg 965 970 975	2928
acc cct gag gtc aca tgc gtg gtg gac gtg agc cac gaa gac cct Thr Pro Glu Val Thr Cys Val Val Asp Val Ser His Glu Asp Pro 980 985 990	2976
gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag gtg cat aat gcc Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala 995 1000 1005	3024
aag aca aag ccg ccg gag gag cag tac aac agc acg tac cgt gtg gtc Lys Thr Lys Pro Arg Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val 1010 1015 1020	3072
agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat ggc aag gag tac Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr 1025 1030 1035 1040	3120
aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc atc gag aaa acc Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr 1045 1050 1055	3168
atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag gtg tac acc ctg Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu 1060 1065 1070	3216
ccc cca tcc cgg gat gag ctg acc aag aac cag gtc agc ctg acc tgc Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys 1075 1080 1085	3264
ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg gag tgg gag agc Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser 1090 1095 1100	3312
aat ggg cag ccg gag aac aac tac aag acc acg cct ccc gtg ctg gac Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp 1105 1110 1115 1120	3360
tcc gac ggc tcc ttc ctc tac agc aag ctc acc gtg gac aag agc Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser 1125 1130 1135	3408
agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg atg cat gag gct Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala 1140 1145 1150	3456
ctg cac aac cac tac acg cag aag agc ctc tcc ctg tct ccg ggt aaa Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys 1155 1160 1165	3504
tga	3507

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<212> PRT  
<213> Homo sapiens

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Gly Ala Ala Leu Ala Pro Arg Arg Cys Pro Ala Gln Glu Val Ala Arg  
20 25 30  
Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val Thr Leu Thr Cys Pro  
35 40 45  
Gly Val Glu Pro Glu Asp Asn Ala Thr Val His Trp Val Leu Arg Lys  
50 55 60  
Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala Gly Met Gly Arg Arg  
65 70 75 80  
Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys  
85 90 95  
Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val  
100 105 110  
Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser  
115 120 125  
Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr  
130 135 140  
Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp  
145 150 155 160  
Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys  
165 170 175  
Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met  
180 185 190  
Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe  
195 200 205  
Gln Gly Cys Gly Ile Leu Gln Pro Asp Pro Pro Ala Asn Ile Thr Val  
210 215 220  
Thr Ala Val Ala Arg Asn Pro Arg Trp Leu Ser Val Thr Trp Gln Asp  
225 230 235 240  
Pro His Ser Trp Asn Ser Ser Phe Tyr Arg Leu Arg Phe Glu Leu Arg  
245 250 255  
Tyr Arg Ala Glu Arg Ser Lys Thr Phe Thr Thr Trp Met Val Lys Asp  
260 265 270  
Leu Gln His His Cys Val Ile His Asp Ala Trp Ser Gly Leu Arg His  
275 280 285  
Val Val Gln Leu Arg Ala Gln Glu Glu Phe Gly Gln Gly Glu Trp Ser  
290 295 300  
Glu Trp Ser Pro Glu Ala Met Gly Thr Pro Trp Thr Glu Ser Arg Ser  
305 310 315 320  
Pro Pro Ala Glu Asn Glu Val Ser Thr Pro Met Thr Gly Gly Ala Pro  
325 330 335  
Ser Gly Ala Gln Leu Glu Leu Leu Asp Pro Cys Gly Tyr Ile Ser Pro  
340 345 350  
Glu Ser Pro Val Val Gln Leu His Ser Asn Phe Thr Ala Val Cys Val  
355 360 365  
Leu Lys Glu Lys Cys Met Asp Tyr Phe His Val Asn Ala Asn Tyr Ile  
370 375 380  
Val Trp Lys Thr Asn His Phe Thr Ile Pro Lys Glu Gln Tyr Thr Ile  
385 390 395 400  
Ile Asn Arg Thr Ala Ser Ser Val Thr Phe Thr Asp Ile Ala Ser Leu  
405 410 415  
Asn Ile Gln Leu Thr Cys Asn Ile Leu Thr Phe Gly Gln Leu Glu Gln  
420 425 430

Asn Val Tyr Gly Ile Thr Ile Ile Ser Gly Leu Pro Pro Glu Lys Pro  
     435                   440                   445  
 Lys Asn Leu Ser Cys Ile Val Asn Glu Gly Lys Lys Met Arg Cys Glu  
     450                   455                   460  
 Trp Asp Gly Gly Arg Glu Thr His Leu Glu Thr Asn Phe Thr Leu Lys  
     465                   470                   475                   480  
 Ser Glu Trp Ala Thr His Lys Phe Ala Asp Cys Lys Ala Lys Arg Asp  
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 Thr Pro Thr Ser Cys Thr Val Asp Tyr Ser Thr Val Tyr Phe Val Asn  
     500                   505                   510  
 Ile Glu Val Trp Val Glu Ala Glu Asn Ala Leu Gly Lys Val Thr Ser  
     515                   520                   525  
 Asp His Ile Asn Phe Asp Pro Val Tyr Lys Val Lys Pro Asn Pro Pro  
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 His Asn Leu Ser Val Ile Asn Ser Glu Glu Leu Ser Ser Ile Leu Lys  
     545                   550                   555                   560  
 Leu Thr Trp Thr Asn Pro Ser Ile Lys Ser Val Ile Ile Leu Lys Tyr  
     565                   570                   575  
 Asn Ile Gln Tyr Arg Thr Lys Asp Ala Ser Thr Trp Ser Gln Ile Pro  
     580                   585                   590  
 Pro Glu Asp Thr Ala Ser Thr Arg Ser Ser Phe Thr Val Gln Asp Leu  
     595                   600                   605  
 Lys Pro Phe Thr Glu Tyr Val Phe Arg Ile Arg Cys Met Lys Glu Asp  
     610                   615                   620  
 Gly Lys Gly Tyr Trp Ser Asp Trp Ser Glu Glu Ala Ser Gly Ile Thr  
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 Tyr Glu Asp Arg Pro Ser Lys Ala Pro Ser Phe Trp Tyr Lys Ile Asp  
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 Pro Ser His Thr Gln Gly Tyr Arg Thr Val Gln Leu Val Trp Lys Thr  
     660                   665                   670  
 Leu Pro Pro Phe Glu Ala Asn Gly Lys Ile Leu Asp Tyr Glu Val Thr  
     675                   680                   685  
 Leu Thr Arg Trp Lys Ser His Leu Gln Asn Tyr Thr Val Asn Ala Thr  
     690                   695                   700  
 Lys Leu Thr Val Asn Leu Thr Asn Asp Arg Tyr Leu Ala Thr Leu Thr  
     705                   710                   715                   720  
 Val Arg Asn Leu Val Gly Lys Ser Asp Ala Ala Val Leu Thr Ile Pro  
     725                   730                   735  
 Ala Cys Asp Phe Gln Ala Thr His Pro Val Met Asp Leu Lys Ala Phe  
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 Pro Lys Asp Asn Met Leu Trp Val Glu Trp Thr Thr Pro Arg Glu Ser  
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 Val Lys Lys Tyr Ile Leu Glu Trp Cys Val Leu Ser Asp Lys Ala Pro  
     770                   775                   780  
 Cys Ile Thr Asp Trp Gln Gln Glu Asp Gly Thr Val His Arg Thr Tyr  
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 Leu Arg Gly Asn Leu Ala Glu Ser Lys Cys Tyr Leu Ile Thr Val Thr  
     805                   810                   815  
 Pro Val Tyr Ala Asp Gly Pro Gly Ser Pro Glu Ser Ile Lys Ala Tyr  
     820                   825                   830  
 Leu Lys Gln Ala Pro Pro Ser Lys Gly Pro Thr Val Arg Thr Lys Lys  
     835                   840                   845  
 Val Gly Lys Asn Glu Ala Val Leu Glu Trp Asp Gln Leu Pro Val Asp  
     850                   855                   860  
 Val Gln Asn Gly Phe Ile Arg Asn Tyr Thr Ile Phe Tyr Arg Thr Ile  
     865                   870                   875                   880  
 Ile Gly Asn Glu Thr Ala Val Asn Val Asp Ser Ser His Thr Glu Tyr  
     885                   890                   895  
 Thr Leu Ser Ser Leu Thr Ser Asp Thr Leu Tyr Met Val Arg Met Ala  
     900                   905                   910  
 Ala Tyr Thr Asp Glu Gly Lys Asp Gly Pro Glu Phe Thr Phe Thr

915	920	925	
Thr Pro Lys Phe Ala Gln Gly Glu Ile Glu Ser Gly	Gly Asp Lys Thr		
930	935	940	
His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu	Gly Gly Pro Ser		
945	950	955	960
Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu	Met Ile Ser Arg		
965	970	975	
Thr Pro Glu Val Thr Cys Val Val Asp Val Ser His	Glu Asp Pro		
980	985	990	
Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu	Val His Asn Ala		
995	1000	1005	
Lys Thr Lys Pro Arg Glu Gln Tyr Asn Ser Thr Tyr	Arg Val Val		
1010	1015	1020	
Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn	Gly Lys Glu Tyr		
1025	1030	1035	1040
Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro	Ile Glu Lys Thr		
1045	1050	1055	
Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln	Val Tyr Thr Leu		
1060	1065	1070	
Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val	Ser Leu Thr Cys		
1075	1080	1085	
Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val	Glu Trp Glu Ser		
1090	1095	1100	
Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro	Pro Val Leu Asp		
1105	1110	1115	1120
Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr	Val Asp Lys Ser		
1125	1130	1135	
Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val	Met His Glu Ala		
1140	1145	1150	
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1155	1160	1165	

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		15

gga gcg gcg ctg gcc cca agg cgc tgc cct gcg	cag gag gtg gca aga	96
Gly Ala Ala Leu Ala Pro Arg Arg Cys Pro Ala	Gln Glu Val Ala Arg	
20	25	30

ggc gtg ctg acc agt ctg cca gga gac agc	gtg act ctg acc tgc ccg	144
Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val	Thr Leu Thr Cys Pro	
35	40	45

ggg gta gag ccg gaa gac aat gcc act gtt cac	tgg gtg ctc agg aag	192
Gly Val Glu Pro Glu Asp Asn Ala Thr Val His	Trp Val Leu Arg Lys	
50	55	60

ccg gct gca ggc tcc cac ccc agc aga tgg gct	ggc atg gga agg agg	240
Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala	Gly Met Gly Arg Arg	
65	70	75
		80

ctg ctg ctg agg tcg gtg cag ctc cac gac tct gga aac tat tca tgc	288
Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys	
85 90 95	
tac cgg gcc ggc cgc cca gct ggg act gtg cac ttg ctg gtg gat gtt	336
Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val	
100 105 110	
ccc ccc gag gag ccc cag ctc tcc tgc ttc cgg aag agc ccc ctc agc	384
Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser	
115 120 125	
aat gtt gtt tgt gag tgg ggt cct cgg agc acc cca tcc ctg acg aca	432
Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr	
130 135 140	
aag gct gtg ctc ttg gtg agg aag ttt cag aac agt ccg gcc gaa gac	480
Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp	
145 150 155 160	
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Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys	
165 170 175	
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Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met	
180 185 190	
tgc gtc gcc agt agt gtc ggg agc aag ttc agc aaa act caa acc ttt	624
Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe	
195 200 205	
cag ggt tgt gga atc ttg cag cct gat ccg cct gcc aac atc aca gtc	672
Gln Gly Cys Gly Ile Leu Gln Pro Asp Pro Ala Asn Ile Thr Val	
210 215 220	
act gcc gtg gcc aga aac ccc cgc tgg ctc agt gtc acc tgg caa gac	720
Thr Ala Val Ala Arg Asn Pro Arg Trp Leu Ser Val Thr Trp Gln Asp	
225 230 235 240	
ccc cac tcc tgg aac tca tct ttc tac aga cta ccg ttt gag ctc aga	768
Pro His Ser Trp Asn Ser Ser Phe Tyr Arg Leu Arg Phe Glu Leu Arg	
245 250 255	
tat cgg gct gaa cgg tca aag aca ttc aca aca tgg atg gtc aag gac	816
Tyr Arg Ala Glu Arg Ser Lys Thr Phe Thr Thr Trp Met Val Lys Asp	
260 265 270	
ctc cag cat cac tgt gtc atc cac gac gcc tgg agc ggc ctg agg cac	864
Leu Gln His His Cys Val Ile His Asp Ala Trp Ser Gly Leu Arg His	
275 280 285	
gtg gtg cag ctt cgt gcc cag gag gag ttc ggg caa ggc gag tgg agc	912
Val Val Gln Leu Arg Ala Gln Glu Glu Phe Gly Gln Gly Glu Trp Ser	
290 295 300	
gag tgg agc ccg gag gcc atg ggc acg cct tgg aca gaa tcg cga tcg	960
Glu Trp Ser Pro Glu Ala Met Gly Thr Pro Trp Thr Glu Ser Arg Ser	
305 310 315 320	

cct cca gct gag aac gag gtg tcc acc ccc atg gaa ctt cta gac cca Pro Pro Ala Glu Asn Glu Val Ser Thr Pro Met Glu Leu Leu Asp Pro 325 330 335	1008
tgt ggt tat atc agt cct gaa tct cca gtt gta caa ctt cat tct aat Cys Gly Tyr Ile Ser Pro Glu Ser Pro Val Val Gln Leu His Ser Asn 340 345 350	1056
ttc act gca gtt tgt gtg cta aag gaa aaa tgt atg gat tat ttt cat Phe Thr Ala Val Cys Val Leu Lys Glu Lys Cys Met Asp Tyr Phe His 355 360 365	1104
gta aat gct aat tac att gtc tgg aaa aca aac cat ttt act att cct Val Asn Ala Asn Tyr Ile Val Trp Lys Thr Asn His Phe Thr Ile Pro 370 375 380	1152
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aca gat ata gct tca tta aat att cag ctc act tgc aac att ctt aca Thr Asp Ile Ala Ser Leu Asn Ile Gln Leu Thr Cys Asn Ile Leu Thr 405 410 415	1248
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ttg cct cca gaa aaa cct aaa aat ttg agt tgc att gtg aac gag ggg Leu Pro Pro Glu Lys Pro Lys Asn Leu Ser Cys Ile Val Asn Glu Gly 435 440 445	1344
aag aaa atg agg tgt gag tgg gat ggt gga agg gaa aca cac ttg gag Lys Lys Met Arg Cys Glu Trp Asp Gly Gly Arg Glu Thr His Leu Glu 450 455 460	1392
aca aac ttc act tta aaa tct gaa tgg gca aca cac aag ttt gct gat Thr Asn Phe Thr Leu Lys Ser Glu Trp Ala Thr His Lys Phe Ala Asp 465 470 475 480	1440
tgc aaa gca aaa cgt gac acc ccc acc tca tgc act gtt gat tat tct Cys Lys Ala Lys Arg Asp Thr Pro Thr Ser Cys Thr Val Asp Tyr Ser 485 490 495	1488
act gtg tat ttt gtc aac att gaa gtc tgg gta gaa gca gag aat gcc Thr Val Tyr Phe Val Asn Ile Glu Val Trp Val Glu Ala Glu Asn Ala 500 505 510	1536
ctt ggg aag gtt aca tca gat cat atc aat ttt gat cct gta tat aaa Leu Gly Lys Val Thr Ser Asp His Ile Asn Phe Asp Pro Val Tyr Lys 515 520 525	1584
gtg aag ccc aat ccg cca cat aat tta tca gtg atc aac tca gag gaa Val Lys Pro Asn Pro His Asn Leu Ser Val Ile Asn Ser Glu Glu 530 535 540	1632
ctg tct agt atc tta aaa ttg aca tgg acc aac cca agt att aag agt Leu Ser Ser Ile Leu Lys Leu Thr Trp Thr Asn Pro Ser Ile Lys Ser 545 550 555 560	1680
gtt ata ata cta aaa tat aac att caa tat agg acc aaa gat gcc tca	1728

Val Ile Ile Leu Lys Tyr Asn Ile Gln Tyr Arg Thr Lys Asp Ala Ser			
565	570	575	
act tgg agc cag att cct cct gaa gac aca gca tcc acc cga tct tca		1776	
Thr Trp Ser Gln Ile Pro Pro Glu Asp Thr Ala Ser Thr Arg Ser Ser			
580	585	590	
ttc act gtc caa gac ctt aaa cct ttt aca gaa tat gtg ttt agg att		1824	
Phe Thr Val Gln Asp Leu Lys Pro Phe Thr Glu Tyr Val Phe Arg Ile			
595	600	605	
cgc tgt atg aag gaa gat ggt aag gga tac tgg agt gac tgg agt gaa		1872	
Arg Cys Met Lys Glu Asp Gly Lys Gly Tyr Trp Ser Asp Trp Ser Glu			
610	615	620	
gaa gca agt ggg atc acc tat gaa gat aga cca tct aaa gca cca agt		1920	
Glu Ala Ser Gly Ile Thr Tyr Glu Asp Arg Pro Ser Lys Ala Pro Ser			
625	630	635	640
ttc tgg tat aaa ata gat cca tcc cat act caa ggc tac aga act gta		1968	
Phe Trp Tyr Lys Ile Asp Pro Ser His Thr Gln Gly Tyr Arg Thr Val			
645	650	655	
caa ctc gtg tgg aag aca ttg cct ctt gaa gcc aat gga aaa atc		2016	
Gln Leu Val Trp Lys Thr Leu Pro Pro Phe Glu Ala Asn Gly Lys Ile			
660	665	670	
ttg gat tat gaa gtg act ctc aca aga tgg aaa tca cat tta caa aat		2064	
Leu Asp Tyr Glu Val Thr Leu Thr Arg Trp Lys Ser His Leu Gln Asn			
675	680	685	
tac aca gtt aat gcc aca aaa ctg aca gta aat ctc aca aat gat cgc		2112	
Tyr Thr Val Asn Ala Thr Lys Leu Thr Val Asn Leu Thr Asn Asp Arg			
690	695	700	
tat cta gca acc cta aca gta aga aat ctt gtt ggc aaa tca gat gca		2160	
Tyr Leu Ala Thr Leu Thr Val Arg Asn Leu Val Gly Lys Ser Asp Ala			
705	710	715	720
gct gtt tta act atc cct gcc tgt gac ttt caa gct act cac cct gta		2208	
Ala Val Leu Thr Ile Pro Ala Cys Asp Phe Gln Ala Thr His Pro Val			
725	730	735	
atg gat ctt aaa gca ttc ccc aaa gat aac atg ctt tgg gtg gaa tgg		2256	
Met Asp Leu Lys Ala Phe Pro Lys Asp Asn Met Leu Trp Val Glu Trp			
740	745	750	
act act cca agg gaa tct gta aag aaa tat ata ctt gag tgg tgt gtg		2304	
Thr Thr Pro Arg Glu Ser Val Lys Lys Tyr Ile Leu Glu Trp Cys Val			
755	760	765	
tta tca gat aaa gca ccc tgt atc aca gac tgg caa caa gaa gat ggt		2352	
Leu Ser Asp Lys Ala Pro Cys Ile Thr Asp Trp Gln Gln Glu Asp Gly			
770	775	780	
acc gtg cat cgc acc tat tta aga ggg aac tta gca gag agc aaa tgc		2400	
Thr Val His Arg Thr Tyr Leu Arg Gly Asn Leu Ala Glu Ser Lys Cys			
785	790	795	800
tat ttg ata aca gtt act cca gta tat gct gat gga cca gga agc cct		2448	
Tyr Leu Ile Thr Val Thr Pro Val Tyr Ala Asp Gly Pro Gly Ser Pro			

805	810	815	
gaa tcc ata aag gca tac ctt aaa caa gct cca cct tcc aaa gga cct Glu Ser Ile Lys Ala Tyr Leu Lys Gln Ala Pro Pro Ser Lys Gly Pro 820	825	830	2496
act gtt cg <sup>g</sup> aca aaa aaa gta ggg aaa aac gaa gct gtc tta gag tgg Thr Val Arg Thr Lys Lys Val Gly Lys Asn Glu Ala Val Leu Glu Trp 835	840	845	2544
gac caa ctt cct gtt gat gtt cag aat gga ttt atc aga aat tat act Asp Gln Leu Pro Val Asp Val Gln Asn Gly Phe Ile Arg Asn Tyr Thr 850	855	860	2592
ata ttt tat aga acc atc att gga aat gaa act gct gtg aat gtg gat Ile Phe Tyr Arg Thr Ile Ile Gly Asn Glu Thr Ala Val Asn Val Asp 865	870	875	2640
tct tcc cac aca gaa tat aca ttg tcc tct ttg act agt gac aca ttg Ser Ser His Thr Glu Tyr Thr Leu Ser Ser Leu Thr Ser Asp Thr Leu 885	890	895	2688
tac atg gta cga atg gca gca tac aca gat gaa ggt ggg aag gat ggt Tyr Met Val Arg Met Ala Ala Tyr Thr Asp Glu Gly Gly Lys Asp Gly 900	905	910	2736
cca gaa ttc act ttt act acc cca aag ttt gct caa gga gaa att gaa Pro Glu Phe Thr Phe Thr Pro Lys Phe Ala Gln Gly Glu Ile Glu 915	920	925	2784
tcc ggg ggc gac aaa act cac aca tgc cca ccg tgc cca gca cct gaa Ser Gly Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu 930	935	940	2832
ctc ctg ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp 945	950	955	2880
acc ctc atg atc tcc cgg acc cct gag gtc aca tgc gtg gtg gtg gac Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp 965	970	975	2928
gtg agc cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly 980	985	990	2976
gtg gag gtg cat aat gcc aag aca aag ccg cgg gag gag cag tac aac Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn 995	1000	1005	3024
agc acg tac cgt gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp 1010	1015	1020	3072
ctg aat ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro 1025	1030	1035	3120
gcc ccc atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu 1045	1050	1055	3168

cca cag gtg tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn 1060 1065 1070	3216
cag gtc agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile 1075 1080 1085	3264
gcc gtg gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr 1090 1095 1100	3312
acg cct ccc gtg ctg gac tcc gac ggc tcc ttc ctc tac agc aag Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 1105 1110 1115 1120	3360
ctc acc gtg gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys 1125 1130 1135	3408
tcc gtg atg cat gag gct ctg cac aac cac tac acg cag aag agc ctc Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu 1140 1145 1150	3456
tcc ctg tct ccg ggt aaa tga Ser Leu Ser Pro Gly Lys 1155	3477

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 <212> PRT  
 <213> Homo sapiens

<400> 26  
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 Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val Thr Leu Thr Cys Pro  
 35 40 45  
 Gly Val Glu Pro Glu Asp Asn Ala Thr Val His Trp Val Leu Arg Lys  
 50 55 60  
 Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala Gly Met Gly Arg Arg  
 65 70 75 80  
 Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys  
 85 90 95  
 Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val  
 100 105 110  
 Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser  
 115 120 125  
 Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr  
 130 135 140  
 Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp  
 145 150 155 160  
 Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys  
 165 170 175  
 Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met  
 180 185 190  
 Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe

195	200	205													
Gln	Gly	Cys	Gly	Ile	Leu	Gln	Pro	Asp	Pro	Pro	Ala	Asn	Ile	Thr	Val
210						215					220				
Thr	Ala	Val	Ala	Arg	Asn	Pro	Arg	Trp	Leu	Ser	Val	Thr	Trp	Gln	Asp
225						230					235			240	
Pro	His	Ser	Trp	Asn	Ser	Ser	Phe	Tyr	Arg	Leu	Arg	Phe	Glu	Leu	Arg
						245				250			255		
Tyr	Arg	Ala	Glu	Arg	Ser	Lys	Thr	Phe	Thr	Thr	Trp	Met	Val	Lys	Asp
						260			265			270			
Leu	Gln	His	His	Cys	Val	Ile	His	Asp	Ala	Trp	Ser	Gly	Leu	Arg	His
						275			280			285			
Val	Val	Gln	Leu	Arg	Ala	Gln	Glu	Glu	Phe	Gly	Gln	Gly	Glu	Trp	Ser
						290			295			300			
Glu	Trp	Ser	Pro	Glu	Ala	Met	Gly	Thr	Pro	Trp	Thr	Glu	Ser	Arg	Ser
305						310					315			320	
Pro	Pro	Ala	Glu	Asn	Glu	Val	Ser	Thr	Pro	Met	Glu	Leu	Leu	Asp	Pro
						325				330			335		
Cys	Gly	Tyr	Ile	Ser	Pro	Glu	Ser	Pro	Val	Val	Gln	Leu	His	Ser	Asn
						340			345			350			
Phe	Thr	Ala	Val	Cys	Val	Leu	Lys	Glu	Lys	Cys	Met	Asp	Tyr	Phe	His
						355			360			365			
Val	Asn	Ala	Asn	Tyr	Ile	Val	Trp	Lys	Thr	Asn	His	Phe	Thr	Ile	Pro
						370			375			380			
Lys	Glu	Gln	Tyr	Thr	Ile	Ile	Asn	Arg	Thr	Ala	Ser	Ser	Val	Thr	Phe
385						390					395			400	
Thr	Asp	Ile	Ala	Ser	Leu	Asn	Ile	Gln	Leu	Thr	Cys	Asn	Ile	Leu	Thr
						405				410			415		
Phe	Gly	Gln	Leu	Glu	Gln	Asn	Val	Tyr	Gly	Ile	Thr	Ile	Ile	Ser	Gly
						420			425			430			
Leu	Pro	Pro	Glu	Lys	Pro	Lys	Asn	Leu	Ser	Cys	Ile	Val	Asn	Glu	Gly
						435			440			445			
Lys	Lys	Met	Arg	Cys	Glu	Trp	Asp	Gly	Gly	Arg	Glu	Thr	His	Leu	Glu
						450			455			460			
Thr	Asn	Phe	Thr	Leu	Lys	Ser	Glu	Trp	Ala	Thr	His	Lys	Phe	Ala	Asp
465						470				475			480		
Cys	Lys	Ala	Lys	Arg	Asp	Thr	Pro	Thr	Ser	Cys	Thr	Val	Asp	Tyr	Ser
						485			490			495			
Thr	Val	Tyr	Phe	Val	Asn	Ile	Glu	Val	Trp	Val	Glu	Ala	Glu	Asn	Ala
						500			505			510			
Leu	Gly	Lys	Val	Thr	Ser	Asp	His	Ile	Asn	Phe	Asp	Pro	Val	Tyr	Lys
						515			520			525			
Val	Lys	Pro	Asn	Pro	Pro	His	Asn	Leu	Ser	Val	Ile	Asn	Ser	Glu	Glu
						530			535			540			
Leu	Ser	Ser	Ile	Leu	Lys	Leu	Thr	Trp	Thr	Asn	Pro	Ser	Ile	Lys	Ser
545						550				555			560		
Val	Ile	Ile	Leu	Lys	Tyr	Asn	Ile	Gln	Tyr	Arg	Thr	Lys	Asp	Ala	Ser
						565			570			575			
Thr	Trp	Ser	Gln	Ile	Pro	Pro	Glu	Asp	Thr	Ala	Ser	Thr	Arg	Ser	Ser
						580			585			590			
Phe	Thr	Val	Gln	Asp	Leu	Lys	Pro	Phe	Thr	Glu	Tyr	Val	Phe	Arg	Ile
						595			600			605			
Arg	Cys	Met	Lys	Glu	Asp	Gly	Lys	Gly	Tyr	Trp	Ser	Asp	Trp	Ser	Glu
						610			615			620			
Glu	Ala	Ser	Gly	Ile	Thr	Tyr	Glu	Asp	Arg	Pro	Ser	Lys	Ala	Pro	Ser
						625			630			635			
Phe	Trp	Tyr	Lys	Ile	Asp	Pro	Ser	His	Thr	Gln	Gly	Tyr	Arg	Thr	Val
						645			650			655			
Gln	Leu	Val	Trp	Lys	Thr	Leu	Pro	Pro	Phe	Glu	Ala	Asn	Gly	Lys	Ile
						660			665			670			
Leu	Asp	Tyr	Glu	Val	Thr	Leu	Thr	Arg	Trp	Lys	Ser	His	Leu	Gln	Asn
						675			680			685			

Tyr Thr Val Asn Ala Thr Lys Leu Thr Val Asn Leu Thr Asn Asp Arg  
 690 695 700  
 Tyr Leu Ala Thr Leu Thr Val Arg Asn Leu Val Gly Lys Ser Asp Ala  
 705 710 715 720  
 Ala Val Leu Thr Ile Pro Ala Cys Asp Phe Gln Ala Thr His Pro Val  
 725 730 735  
 Met Asp Leu Lys Ala Phe Pro Lys Asp Asn Met Leu Trp Val Glu Trp  
 740 745 750  
 Thr Thr Pro Arg Glu Ser Val Lys Lys Tyr Ile Leu Glu Trp Cys Val  
 755 760 765  
 Leu Ser Asp Lys Ala Pro Cys Ile Thr Asp Trp Gln Gln Glu Asp Gly  
 770 775 780  
 Thr Val His Arg Thr Tyr Leu Arg Gly Asn Leu Ala Glu Ser Lys Cys  
 785 790 795 800  
 Tyr Leu Ile Thr Val Thr Pro Val Tyr Ala Asp Gly Pro Gly Ser Pro  
 805 810 815  
 Glu Ser Ile Lys Ala Tyr Leu Lys Gln Ala Pro Pro Ser Lys Gly Pro  
 820 825 830  
 Thr Val Arg Thr Lys Lys Val Gly Lys Asn Glu Ala Val Leu Glu Trp  
 835 840 845  
 Asp Gln Leu Pro Val Asp Val Gln Asn Gly Phe Ile Arg Asn Tyr Thr  
 850 855 860  
 Ile Phe Tyr Arg Thr Ile Ile Gly Asn Glu Thr Ala Val Asn Val Asp  
 865 870 875 880  
 Ser Ser His Thr Glu Tyr Thr Leu Ser Ser Leu Thr Ser Asp Thr Leu  
 885 890 895  
 Tyr Met Val Arg Met Ala Ala Tyr Thr Asp Glu Gly Gly Lys Asp Gly  
 900 905 910  
 Pro Glu Phe Thr Phe Thr Thr Pro Lys Phe Ala Gln Gly Glu Ile Glu  
 915 920 925  
 Ser Gly Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu  
 930 935 940  
 Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp  
 945 950 955 960  
 Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp  
 965 970 975  
 Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly  
 980 985 990  
 Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn  
 995 1000 1005  
 Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp  
 1010 1015 1020  
 Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro  
 1025 1030 1035 1040  
 Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu  
 1045 1050 1055  
 Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn  
 1060 1065 1070  
 Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile  
 1075 1080 1085  
 Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr  
 1090 1095 1100  
 Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys  
 1105 1110 1115 1120  
 Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys  
 1125 1130 1135  
 Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu  
 1140 1145 1150  
 Ser Leu Ser Pro Gly Lys  
 1155

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<400> 27

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Met	Val	Leu	Leu	Trp	Cys	Val	Val	Ser	Leu	Tyr	Phe	Tyr	Gly	Ile	Leu	
1		5					10						15			

caa	agt	gat	gcc	tca	gaa	cgc	tgc	gat	gac	tgg	gga	cta	gac	acc	atg	96
Gln	Ser	Asp	Ala	Ser	Glu	Arg	Cys	Asp	Asp	Trp	Gly	Leu	Asp	Thr	Met	
20					25							30				

agg	caa	atc	caa	gtg	ttt	gaa	gat	gag	cca	gct	cgc	atc	aag	tgc	cca	144
Arg	Gln	Ile	Gln	Val	Phe	Glu	Asp	Glu	Pro	Ala	Arg	Ile	Lys	Cys	Pro	
35					40							45				

ctc	ttt	gaa	cac	ttc	ttg	aaa	ttc	aac	tac	agc	aca	gcc	cat	tca	gct	192
Leu	Phe	His	Phe	Leu	Lys	Phe	Asn	Tyr	Ser	Thr	Ala	Arg	Ile	His	Ser	Ala
50				55						60						

ggc	ctt	act	ctg	atc	tgg	tat	tgg	act	agg	cag	gac	cg	gac	ctt	gag	240
Gly	Leu	Thr	Leu	Ile	Trp	Tyr	Trp	Thr	Arg	Gln	Asp	Arg	Asp	Leu	Glu	
65				70				75			80					

gag	cca	att	aac	ttc	cgc	ctc	ccc	gag	aac	cgc	att	agt	aag	gag	aaa	288
Glu	Pro	Ile	Asn	Phe	Arg	Leu	Pro	Glu	Asn	Arg	Ile	Ser	Lys	Glu	Lys	
85					90						95					

gat	gtg	ctg	tgg	ttc	cg	ccc	act	ctc	ctc	aat	gac	act	ggc	aac	tat	336
Asp	Val	Leu	Trp	Phe	Arg	Pro	Thr	Leu	Leu	Asn	Asp	Thr	Gly	Asn	Tyr	
100					105					110						

acc	tgc	atg	tta	agg	aac	act	aca	tat	tgc	agc	aaa	gtt	gca	ttt	ccc	384
Thr	Cys	Met	Leu	Arg	Asn	Thr	Thr	Tyr	Cys	Ser	Lys	Val	Ala	Phe	Pro	
115				120						125						

ttg	gaa	gtt	gtt	caa	aaa	gac	agc	tgt	ttc	aat	tcc	ccc	atg	aaa	ctc	432
Leu	Glu	Val	Val	Gln	Lys	Asp	Ser	Cys	Phe	Asn	Ser	Pro	Met	Lys	Leu	
130				135						140						

cca	gtg	cat	aaa	ctg	tat	ata	gaa	tat	ggc	att	cag	agg	atc	act	tgt	480
Pro	Val	His	Lys	Leu	Tyr	Ile	Glu	Tyr	Gly	Ile	Gln	Arg	Ile	Thr	Cys	
145				150					155			160				

cca	aat	gta	gat	gga	tat	ttt	cct	tcc	agt	gtc	aaa	ccg	act	atc	act	528
Pro	Asn	Val	Asp	Gly	Tyr	Phe	Pro	Ser	Ser	Val	Lys	Pro	Thr	Ile	Thr	
165				170						175						

tgg	tat	atg	ggc	tgt	tat	aaa	ata	cag	aat	ttt	aat	aat	gta	ata	ccc	576
Trp	Tyr	Met	Gly	Cys	Tyr	Lys	Ile	Gln	Asn	Phe	Asn	Asn	Val	Ile	Pro	
180				185						190						

gaa	ggt	atg	aac	ttg	agt	ttc	ctc	att	gcc	tta	att	tca	aat	aat	gga	624
Glu	Gly	Met	Asn	Leu	Ser	Phe	Leu	Ile	Ala	Leu	Ile	Ser	Asn	Asn	Gly	
195				200						205						

aat tac aca tgt gtt aca tat cca gaa aat gga cgt acg ttt cat Asn Tyr Thr Cys Val Val Thr Tyr Pro Glu Asn Gly Arg Thr Phe His 210 215 220	672
ctc acc agg act ctg act gta aag gta gta ggc tct cca aaa aat gca Leu Thr Arg Thr Leu Thr Val Lys Val Val Gly Ser Pro Lys Asn Ala 225 230 235 240	720
gtg ccc cct gtg atc cat tca cct aat gat cat gtg gtc tat gag aaa Val Pro Pro Val Ile His Ser Pro Asn Asp His Val Val Tyr Glu Lys 245 250 255	768
gaa cca gga gag gag cta ctc att ccc tgt acg gtc tat ttt agt ttt Glu Pro Gly Glu Glu Leu Leu Ile Pro Cys Thr Val Tyr Phe Ser Phe 260 265 270	816
ctg atg gat tct cgc aat gag gtt tgg tgg acc att gat gga aaa aaa Leu Met Asp Ser Arg Asn Glu Val Trp Trp Thr Ile Asp Gly Lys Lys 275 280 285	864
cct gat gac atc act att gat gtc acc att aac gaa agt ata agt cat Pro Asp Asp Ile Thr Ile Asp Val Thr Ile Asn Glu Ser Ile Ser His 290 295 300	912
agt aga aca gaa gat gaa aca aga act cag att ttg agc atc aag aaa Ser Arg Thr Glu Asp Glu Thr Arg Thr Gln Ile Leu Ser Ile Lys Lys 305 310 315 320	960
gtt acc tct gag gat ctc aag cgc agc tat gtc tgt cat gct aga agt Val Thr Ser Glu Asp Leu Lys Arg Ser Tyr Val Cys His Ala Arg Ser 325 330 335	1008
gcc aaa ggc gaa gtt gcc aaa gca gca gaa gtc aag cag aaa gtg cca Ala Lys Gly Glu Val Ala Lys Ala Lys Val Lys Gln Lys Val Pro 340 345 350	1056
gct cca aga tac aca gtg tcc ggt ggc gcg cct atg ctg agc gag gct Ala Pro Arg Tyr Thr Val Ser Gly Gly Ala Pro Met Leu Ser Glu Ala 355 360 365	1104
gat aaa tgc aag gaa cgt gaa gaa aaa ata att tta gtg tca tct gca Asp Lys Cys Lys Glu Arg Glu Glu Lys Ile Ile Leu Val Ser Ser Ala 370 375 380	1152
aat gaa att gat gtt cgt ccc tgt cct ctt aac cca aat gaa cac aaa Asn Glu Ile Asp Val Arg Pro Cys Pro Leu Asn Pro Asn Glu His Lys 385 390 395 400	1200
ggc act ata act tgg tat aag gat gac agc aag aca cct gta tct aca Gly Thr Ile Thr Trp Tyr Lys Asp Asp Ser Lys Thr Pro Val Ser Thr 405 410 415	1248
gaa caa gcc tcc agg att cat caa cac aaa gag aaa ctt tgg ttt gtt Glu Gln Ala Ser Arg Ile His Gln His Lys Glu Lys Leu Trp Phe Val 420 425 430	1296
cct gct aag gtg gag gat tca gga cat tac tat tgc gtg gta aga aat Pro Ala Lys Val Glu Asp Ser Gly His Tyr Tyr Cys Val Val Arg Asn 435 440 445	1344

tca tct tac tgc ctc aga att aaa ata agt gca aaa ttt gtg gag aat	1392
Ser Ser Tyr Cys Leu Arg Ile Lys Ile Ser Ala Lys Phe Val Glu Asn	
450 455 460	
gag cct aac tta tgt tat aat gca caa gcc ata ttt aag cag aaa cta	1440
Glu Pro Asn Leu Cys Tyr Asn Ala Gln Ala Ile Phe Lys Gln Lys Leu	
465 470 475 480	
ccc gtt gca gga gac gga gga ctt gtg tgc cct tat atg gag ttt ttt	1488
Pro Val Ala Gly Asp Gly Gly Leu Val Cys Pro Tyr Met Glu Phe Phe	
485 490 495	
aaa aat gaa aat aat gag tta cct aaa tta cag tgg tat aag gat tgc	1536
Lys Asn Glu Asn Glu Leu Pro Lys Leu Gln Trp Tyr Lys Asp Cys	
500 505 510	
aaa cct cta ctt ctt gac aat ata cac ttt agt gga gtc aaa gat agg	1584
Lys Pro Leu Leu Asp Asn Ile His Phe Ser Gly Val Lys Asp Arg	
515 520 525	
ctc atc gtg atg aat gtg gct gaa aag cat aga ggg aac tat act tgt	1632
Leu Ile Val Met Asn Val Ala Glu Lys His Arg Gly Asn Tyr Thr Cys	
530 535 540	
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His Ala Ser Tyr Thr Tyr Leu Gly Lys Gln Tyr Pro Ile Thr Arg Val	
545 550 555 560	
ata gaa ttt att act cta gag gaa aac aaa ccc aca agg cct gtg att	1728
Ile Glu Phe Ile Thr Leu Glu Glu Asn Lys Pro Thr Arg Pro Val Ile	
565 570 575	
gtg agc cca gct aat gag aca atg gaa gta gac ttg gga tcc cag ata	1776
Val Ser Pro Ala Asn Glu Thr Met Glu Val Asp Leu Gly Ser Gln Ile	
580 585 590	
caa ttg atc tgt aat gtc acc ggc cag ttg agt gac att gct tac tgg	1824
Gln Ile Cys Asn Val Thr Gly Gln Leu Ser Asp Ile Ala Tyr Trp	
595 600 605	
aag tgg aat ggg tca gta att gat gaa gat gac cca gtg cta ggg gaa	1872
Lys Trp Asn Gly Ser Val Ile Asp Glu Asp Asp Pro Val Leu Gly Glu	
610 615 620	
gac tat tac agt gtg gaa aat cct gca aac aaa aga agg agt acc ctc	1920
Asp Tyr Tyr Ser Val Glu Asn Pro Ala Asn Lys Arg Arg Ser Thr Leu	
625 630 635 640	
atc aca gtg ctt aat ata tcg gaa att gag agt aga ttt tat aaa cat	1968
Ile Thr Val Leu Asn Ile Ser Glu Ile Glu Ser Arg Phe Tyr Lys His	
645 650 655	
cca ttt acc tgt ttt gcc aag aat aca cat ggt ata gat gca gca tat	2016
Pro Phe Thr Cys Phe Ala Lys Asn Thr His Gly Ile Asp Ala Ala Tyr	
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Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val		
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Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser		
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aaa gcc aaa ggg cag ccc cga gaa cca cag gtg tac acc ctg ccc cca	2448	
Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro		
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tcc cgg gag gag atg acc aag aac cag gtc agc ctg acc tgc ctg gtc	2496	
Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val		
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Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly		
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tga	2733	

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 <213> Homo sapiens

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Leu Phe Glu His Phe Leu Lys Phe Asn Tyr Ser Thr Ala His Ser Ala  
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Gly Leu Thr Leu Ile Trp Tyr Trp Thr Arg Gln Asp Arg Asp Leu Glu  
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Glu Pro Ile Asn Phe Arg Leu Pro Glu Asn Arg Ile Ser Lys Glu Lys  
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Asp Val Leu Trp Phe Arg Pro Thr Leu Leu Asn Asp Thr Gly Asn Tyr  
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Thr Cys Met Leu Arg Asn Thr Thr Tyr Cys Ser Lys Val Ala Phe Pro  
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Leu Glu Val Val Gln Lys Asp Ser Cys Phe Asn Ser Pro Met Lys Leu  
130 135 140  
Pro Val His Lys Leu Tyr Ile Glu Tyr Gly Ile Gln Arg Ile Thr Cys  
145 150 155 160  
Pro Asn Val Asp Gly Tyr Phe Pro Ser Ser Val Lys Pro Thr Ile Thr  
165 170 175  
Trp Tyr Met Gly Cys Tyr Lys Ile Gln Asn Phe Asn Asn Val Ile Pro  
180 185 190  
Glu Gly Met Asn Leu Ser Phe Leu Ile Ala Leu Ile Ser Asn Asn Gly  
195 200 205  
Asn Tyr Thr Cys Val Val Thr Tyr Pro Glu Asn Gly Arg Thr Phe His  
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Leu Thr Arg Thr Leu Thr Val Lys Val Val Gly Ser Pro Lys Asn Ala  
225 230 235 240  
Val Pro Pro Val Ile His Ser Pro Asn Asp His Val Val Tyr Glu Lys  
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Glu Pro Gly Glu Glu Leu Leu Ile Pro Cys Thr Val Tyr Phe Ser Phe  
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Leu Met Asp Ser Arg Asn Glu Val Trp Trp Thr Ile Asp Gly Lys Lys  
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Pro Asp Asp Ile Thr Ile Asp Val Thr Ile Asn Glu Ser Ile Ser His  
290 295 300  
Ser Arg Thr Glu Asp Glu Thr Arg Thr Gln Ile Leu Ser Ile Lys Lys  
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Val Thr Ser Glu Asp Leu Lys Arg Ser Tyr Val Cys His Ala Arg Ser  
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Ala Lys Gly Glu Val Ala Lys Ala Ala Lys Val Lys Gln Lys Val Pro  
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Ala Pro Arg Tyr Thr Val Ser Gly Gly Ala Pro Met Leu Ser Glu Ala  
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Asp Lys Cys Lys Glu Arg Glu Glu Lys Ile Ile Leu Val Ser Ser Ala  
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Asn Glu Ile Asp Val Arg Pro Cys Pro Leu Asn Pro Asn Glu His Lys  
385 390 395 400  
Gly Thr Ile Thr Trp Tyr Lys Asp Asp Ser Lys Thr Pro Val Ser Thr  
405 410 415  
Glu Gln Ala Ser Arg Ile His Gln His Lys Glu Lys Leu Trp Phe Val  
420 425 430  
Pro Ala Lys Val Glu Asp Ser Gly His Tyr Tyr Cys Val Val Arg Asn  
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Glu Pro Asn Leu Cys Tyr Asn Ala Gln Ala Ile Phe Lys Gln Lys Leu

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His Ala Ser Tyr Thr Tyr Leu Gly Lys Gln Tyr Pro Ile Thr Arg Val			
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Ile Glu Phe Ile Thr Leu Glu Glu Asn Lys Pro Thr Arg Pro Val Ile			
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Val Ser Pro Ala Asn Glu Thr Met Glu Val Asp Leu Gly Ser Gln Ile			
580	585	590	
Gln Leu Ile Cys Asn Val Thr Gly Gln Leu Ser Asp Ile Ala Tyr Trp			
595	600	605	
Lys Trp Asn Gly Ser Val Ile Asp Glu Asp Asp Pro Val Leu Gly Glu			
610	615	620	
Asp Tyr Tyr Ser Val Glu Asn Pro Ala Asn Lys Arg Arg Ser Thr Leu			
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Ile Thr Val Leu Asn Ile Ser Glu Ile Glu Ser Arg Phe Tyr Lys His			
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Pro Phe Thr Cys Phe Ala Lys Asn Thr His Gly Ile Asp Ala Ala Tyr			
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Ile Gln Leu Ile Tyr Pro Val Thr Asn Ser Gly Asp Lys Thr His Thr			
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Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe			
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Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro			
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Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val			
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Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr			
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Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val			
755	760	765	
Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys			
770	775	780	
Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser			
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Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro			
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Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val			
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Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly			
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Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp			
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Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp			
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Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His			
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Leu Leu Gln Val Ala Ser Ser Gly Asn Met Lys Val Leu Gln Glu Pro  
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acc tgc gtc tcc gac tac atg agc atc tct act tgc gag tgg aag atg 144  
Thr Cys Val Ser Asp Tyr Met Ser Ile Ser Thr Cys Glu Trp Lys Met  
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Asn Gly Pro Thr Asn Cys Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu  
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Gly Ala Gly Cys Val Cys His Leu Leu Met Asp Asp Val Val Ser Ala  
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gat aac tat aca ctg gac ctg tgg gct ggg cag cag ctg ctg tgg aag 336  
Asp Asn Tyr Thr Leu Asp Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys  
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ggc tcc ttc aag ccc agc gag cat gtg aaa ccc agg gcc cca gga aac 384  
Gly Ser Phe Lys Pro Ser Glu His Val Lys Pro Arg Ala Pro Gly Asn  
115 120 125

ctg aca gtt cac acc aat gtc tcc gac act ctg ctg acc tgg agc 432  
Leu Thr Val His Thr Asn Val Ser Asp Thr Leu Leu Leu Thr Trp Ser  
130 135 140

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tct ggg att tcc tac agg gca cgg gtg agg gcc tgg gct cag agc tat 624  
Ser Gly Ile Ser Tyr Arg Ala Arg Val Arg Ala Trp Ala Gln Ser Tyr  
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Thr Glu Thr His Asn Val Phe Tyr Val Gln Glu Ala Lys Cys Glu Asn			
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Pro Glu Phe Glu Arg Asn Val Glu Asn Thr Ser Cys Phe Met Val Pro			
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Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg			
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Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser			

705	710	715	720																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
aat ggg cag ccg gag aac aac tac aag acc acg cct ccc gtg ctg gac Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp 725 730 735				2208																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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tga				2355																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
<p>&lt;210&gt; 30  &lt;211&gt; 784  &lt;212&gt; PRT  &lt;213&gt; Homo sapiens</p> <p>&lt;400&gt; 30</p> <table border="0"> <tbody> <tr><td>Met</td><td>Val</td><td>Trp</td><td>Leu</td><td>Cys</td><td>Ser</td><td>Gly</td><td>Leu</td><td>Leu</td><td>Phe</td><td>Pro</td><td>Val</td><td>Ser</td><td>Cys</td><td>Leu</td><td>Val</td></tr> <tr><td>1</td><td></td><td></td><td>5</td><td></td><td></td><td></td><td></td><td>10</td><td></td><td></td><td></td><td></td><td>15</td><td></td><td></td></tr> <tr><td>Leu</td><td>Leu</td><td>Gln</td><td>Val</td><td>Ala</td><td>Ser</td><td>Ser</td><td>Gly</td><td>Asn</td><td>Met</td><td>Lys</td><td>Val</td><td>Leu</td><td>Gln</td><td>Glu</td><td>Pro</td></tr> <tr><td></td><td></td><td>20</td><td></td><td></td><td></td><td></td><td></td><td>25</td><td></td><td></td><td></td><td></td><td>30</td><td></td><td></td></tr> 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Arg Ile Cys Leu Gln Val Gly Ser Gln Cys Ser	Thr Asn Glu Ser	Glu
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Lys Pro Ser Ile Leu Val Glu Lys Cys Ile Ser	Pro Pro Glu Gly	Asp
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Pro Glu Ser Ala Val Thr Glu Leu Gln Cys Ile	Trp His Asn Leu	Ser
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Tyr Met Lys Cys Ser Trp Leu Pro Gly Arg Asn	Thr Ser Pro Asp	Thr
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Asn Tyr Thr Leu Tyr Tyr Trp His Arg Ser	Leu Glu Lys Ile His	Gln
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Cys Glu Asn Ile Phe Arg Glu Gly Gln Tyr	Phe Gly Cys Ser	Phe Asp
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Leu Thr Lys Val Lys Asp Ser Ser Phe	Glu Gln His Ser Val	Gln Ile
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Met Val Lys Asp Asn Ala Gly Lys Ile Lys	Pro Ser Phe Asn	Ile Val
420	425	430
Pro Leu Thr Ser Arg Val Lys Pro Asp Pro	Pro His Ile Lys Asn	Leu
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Ser Phe His Asn Asp Asp Leu Tyr Val Gln	Trp Glu Asn Pro	Gln Asn
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Pro Glu Phe Glu Arg Asn Val Glu Asn	Thr Ser Cys Phe	Met Val Pro
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Gly Val Leu Pro Asp Thr Leu Asn Thr Val	Arg Ile Arg Val	Lys Thr
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Asn Lys Leu Cys Tyr Glu Asp Asp Lys	Leu Trp Ser Asn Trp	Ser Gln
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Glu Met Ser Ile Gly Lys Lys Arg Asn Ser	Thr Thr Gly Asp	Lys Thr
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His Thr Cys Pro Pro Cys Pro Ala Pro	Glu Leu Leu Gly	Gly Pro Ser
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Val Phe Leu Phe Pro Pro Lys Pro	Lys Asp Thr Leu Met	Ile Ser Arg
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Thr Pro Glu Val Thr Cys Val Val Val	Asp Val Ser His	Glu Asp Pro
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Glu Val Lys Phe Asn Trp Tyr Val Asp	Gly Val Glu Val	His Asn Ala
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Lys Cys Lys Val Ser Asn Lys Ala	Leu Pro Ala Pro Ile	Glu Lys Thr
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Ile Ser Lys Ala Lys Gly Gln Pro	Arg Glu Pro Gln	Val Tyr Thr Leu
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Pro Pro Ser Arg Glu Glu Met Thr	Lys Asn Gln Val	Ser Leu Thr Cys
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Asn Gly Gln Pro Glu Asn Asn Tyr	Lys Thr Thr Pro	Pro Val Leu Asp
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<400> 31

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Met Val Trp Pro Ala Arg Leu Cys Gly Leu Trp Ala Leu Leu Leu Cys  
1 5 10 15

48

gcc ggc ggc ggg ggc ggg ggc ggc gcc gcg cct acg gaa act cag  
Ala Gly Gly Gly Gly Gly Gly Ala Ala Pro Thr Glu Thr Gln  
20 25 30

96

cca cct gtg aca aat ttg agt gtc tct gtt gaa aac ctc tgc aca gta  
Pro Pro Val Thr Asn Leu Ser Val Ser Val Glu Asn Leu Cys Thr Val  
35 40 45

144

ata tgg aca tgg aat cca ccc gag gga gcc agc tca aat tgt agt cta  
Ile Trp Thr Trp Asn Pro Pro Glu Gly Ala Ser Ser Asn Cys Ser Leu  
50 55 60

192

tgg tat ttt agt cat ttt ggc gac aaa caa gat aag aaa ata gct ccg  
Trp Tyr Phe Ser His Phe Gly Asp Lys Gln Asp Lys Lys Ile Ala Pro  
65 70 75 80

240

gaa act cgt cgt tca ata gaa gta ccc ctg aat gag agg att tgt ctg  
Glu Thr Arg Arg Ser Ile Glu Val Pro Leu Asn Glu Arg Ile Cys Leu  
85 90 95

288

caa gtg ggg tcc cag tgt agc acc aat gag agt gag aag cct agc att  
Gln Val Gly Ser Gln Cys Ser Thr Asn Glu Ser Glu Lys Pro Ser Ile  
100 105 110

336

ttg gtt gaa aaa tgc atc tca ccc cca gaa ggt gat cct gag tct gct  
Leu Val Glu Lys Cys Ile Ser Pro Pro Glu Gly Asp Pro Glu Ser Ala  
115 120 125

384

gtg act gag cttcaa tgc att tgg cac aac ctg agc tac atg aag tgt  
Val Thr Glu Leu Gln Cys Ile Trp His Asn Leu Ser Tyr Met Lys Cys  
130 135 140

432

tct tgg ctc cct gga agg aat acc agt ccc gac act aac tat act ctc  
Ser Trp Leu Pro Gly Arg Asn Thr Ser Pro Asp Thr Asn Tyr Thr Leu  
145 150 155 160

480

tac tat tgg cac aga agc ctg gaa aaa att cat caa tgt gaa aac atc  
Tyr Tyr Trp His Arg Ser Leu Glu Lys Ile His Gln Cys Glu Asn Ile  
165 170 175

528

ttt aga gaa ggc caa tac ttt ggt tgt tcc ttt gat ctg acc aaa gtg  
Phe Arg Glu Gly Gln Tyr Phe Gly Cys Ser Phe Asp Leu Thr Lys Val  
180 185 190

576

aag gat tcc agt ttt gaa caa cac agt gtc caa ata atg gtc aag gat Lys Asp Ser Ser Phe Glu Gln His Ser Val Gln Ile Met Val Lys Asp 195 200 205	624
aat gca gga aaa att aaa cca tcc ttc aat ata gtg cct tta act tcc Asn Ala Gly Lys Ile Lys Pro Ser Phe Asn Ile Val Pro Leu Thr Ser 210 215 220	672
cgt gtg aaa cct gat cct cca cat att aaa aac ctc tcc ttc cac aat Arg Val Lys Pro Asp Pro His Ile Lys Asn Leu Ser Phe His Asn 225 230 235 240	720
gat gac cta tat gtg caa tgg gag aat cca cag aat ttt att agc aga Asp Asp Leu Tyr Val Gln Trp Glu Asn Pro Gln Asn Phe Ile Ser Arg 245 250 255	768
tgc cta ttt tat gaa gta gaa gtc aat aac agc caa act gag aca cat Cys Leu Phe Tyr Glu Val Glu Val Asn Asn Ser Gln Thr Glu Thr His 260 265 270	816
aat gtt ttc tac gtc caa gag gct aaa tgt gag aat cca gaa ttt gag Asn Val Phe Tyr Val Gln Glu Ala Lys Cys Glu Asn Pro Glu Phe Glu 275 280 285	864
aga aat gtg gag aat aca tct tgt ttc atg gtc cct ggt gtt ctt cct Arg Asn Val Glu Asn Thr Ser Cys Phe Met Val Pro Gly Val Leu Pro 290 295 300	912
gat act ttg aac aca gtc aga ata aga gtc aaa aca aat aag tta tgc Asp Thr Leu Asn Thr Val Arg Ile Arg Val Lys Thr Asn Lys Leu Cys 305 310 315 320	960
tat gag gat gac aaa ctc tgg agt aat tgg agc caa gaa atg agt ata Tyr Glu Asp Asp Lys Leu Trp Ser Asn Trp Ser Gln Glu Met Ser Ile 325 330 335	1008
ggt aag aag cgc aat tcc aca ggc gcg cct agt ggt gga ggt ggc cgg Gly Lys Lys Arg Asn Ser Thr Gly Ala Pro Ser Gly Gly Gly Arg 340 345 350	1056
ccc gca agc tct ggg aac atg aag gtc ttg cag gag ccc acc tgc gtc Pro Ala Ser Ser Gly Asn Met Lys Val Leu Gln Glu Pro Thr Cys Val 355 360 365	1104
tcc gac tac atg agc atc tct act tgc gag tgg aag atg aat ggt ccc Ser Asp Tyr Met Ser Ile Ser Thr Cys Glu Trp Lys Met Asn Gly Pro 370 375 380	1152
acc aat tgc agc acc gag ctc cgc ctg ttg tac cag ctg gtt ttt ctg Thr Asn Cys Ser Thr Glu Leu Arg Leu Tyr Gln Leu Val Phe Leu 385 390 395 400	1200
ctc tcc gaa gcc cac acg tgt atc cct gag aac aac gga ggc gcg ggg Leu Ser Glu Ala His Thr Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly 405 410 415	1248
tgc gtg tgc cac ctg ctc atg gat gac gtg gtc agt gcg gat aac tat Cys Val Cys His Leu Leu Met Asp Asp Val Val Ser Ala Asp Asn Tyr 420 425 430	1296
aca ctg gac ctg tgg gct ggg cag cag ctg ctg tgg aag ggc tcc ttc	1344

Thr Leu Asp Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe			
435	440	445	
aag ccc agc gag cat gtg aaa ccc agg gcc cca gga aac ctg aca gtt		1392	
Lys Pro Ser Glu His Val Lys Pro Arg Ala Pro Gly Asn Leu Thr Val			
450	455	460	
cac acc aat gtc tcc gac act ctg ctg acc tgg agc aac ccg tat		1440	
His Thr Asn Val Ser Asp Thr Leu Leu Thr Trp Ser Asn Pro Tyr			
465	470	475	480
ccc cct gac aat tac ctg tat aat cat ctc acc tat gca gtc aac att		1488	
Pro Pro Asp Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala Val Asn Ile			
485	490	495	
tgg agt gaa aac gac ccg gca gat ttc aga atc tat aac gtg acc tac		1536	
Trp Ser Glu Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr			
500	505	510	
cta gaa ccc tcc ctc cgc atc gca gcc agc acc ctg aag tct ggg att		1584	
Leu Glu Pro Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile			
515	520	525	
tcc tac agg gca ccg gtg agg gcc tgg gct cag tgc tat aac acc acc		1632	
Ser Tyr Arg Ala Arg Val Arg Ala Trp Ala Gln Cys Tyr Asn Thr Thr			
530	535	540	
tgg agt gag tgg agc ccc agc acc aag tgg cac aac tcc tac agg gag		1680	
Trp Ser Glu Trp Ser Pro Ser Thr Lys Trp His Asn Ser Tyr Arg Glu			
545	550	555	560
ccc ttc gag cag tcc gga gac aaa act cac aca tgc cca ccg tgc cca		1728	
Pro Phe Glu Gln Ser Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro			
565	570	575	
gca cct gaa ctc ctg ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa		1776	
Ala Pro Glu Leu Leu Gly Pro Ser Val Phe Leu Phe Pro Pro Lys			
580	585	590	
ccc aag gac acc ctc atg atc tcc ccg acc cct gag gtc aca tgc gtg		1824	
Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val			
595	600	605	
gtg gtg gac gtg agc cac gaa gac cct gag gtc aag ttc aac tgg tac		1872	
Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr			
610	615	620	
gtg gac ggc gtg gag gtg cat aat gcc aag aca aag ccg ccg gag gag		1920	
Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu			
625	630	635	640
cag tac aac agc acg tac cgt gtg gtc agc gtc ctc acc gtc ctg cac		1968	
Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His			
645	650	655	
cag gac tgg ctg aat ggc aag gag tac aag tgc aag gtc tcc aac aaa		2016	
Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys			
660	665	670	
gcc ctc cca gcc ccc atc gag aaa acc atc tcc aaa gcc aaa ggg cag		2064	
Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln			

675	680	685	
ccc cga gaa cca cag gtg tac acc ctg ccc cca tcc cgg gag gag atg Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met 690	695	700	2112
acc aag aac cag gtc agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro 705	710	715	2160
agc gac atc gcc gtg gag tgg gag agc aat ggg cag ccg gag aac aac Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn 725	730	735	2208
tac aag acc acg cct ccc gtg ctg gac tcc gac ggc tcc ttc ttc ctc Tyr Lys Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu 740	745	750	2256
tat agc aag ctc acc gtg gac aag agc agg tgg cag cag ggg aac gtc Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val 755	760	765	2304
ttc tca tgc tcc gtg atg cat gag gct ctg cac aac cac tac acg cag Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln 770	775	780	2352
aag agc ctc tcc ctg tct ccg ggt aaa tga Lys Ser Leu Ser Leu Ser Pro Gly Lys 785	790		2382
<pre> &lt;210&gt; 32 &lt;211&gt; 793 &lt;212&gt; PRT &lt;213&gt; Homo sapiens </pre>			
<pre> &lt;400&gt; 32 Met Val Trp Pro Ala Arg Leu Cys Gly Leu Trp Ala Leu Leu Cys 1 5 10 15 Ala Gly Gly Gly Gly Gly Gly Ala Ala Pro Thr Glu Thr Gln 20 25 30 Pro Pro Val Thr Asn Leu Ser Val Ser Val Glu Asn Leu Cys Thr Val 35 40 45 Ile Trp Thr Trp Asn Pro Pro Glu Gly Ala Ser Ser Asn Cys Ser Leu 50 55 60 Trp Tyr Phe Ser His Phe Gly Asp Lys Gln Asp Lys Lys Ile Ala Pro 65 70 75 80 Glu Thr Arg Arg Ser Ile Glu Val Pro Leu Asn Glu Arg Ile Cys Leu 85 90 95 Gln Val Gly Ser Gln Cys Ser Thr Asn Glu Ser Glu Lys Pro Ser Ile 100 105 110 Leu Val Glu Lys Cys Ile Ser Pro Pro Glu Gly Asp Pro Glu Ser Ala 115 120 125 Val Thr Glu Leu Gln Cys Ile Trp His Asn Leu Ser Tyr Met Lys Cys 130 135 140 Ser Trp Leu Pro Gly Arg Asn Thr Ser Pro Asp Thr Asn Tyr Thr Leu 145 150 155 160 Tyr Tyr Trp His Arg Ser Leu Glu Lys Ile His Gln Cys Glu Asn Ile 165 170 175 Phe Arg Glu Gly Gln Tyr Phe Gly Cys Ser Phe Asp Leu Thr Lys Val 180 185 190 </pre>			

Lys Asp Ser Ser Phe Glu Gln His Ser Val Gln Ile Met Val Lys Asp  
 195 200 205  
 Asn Ala Gly Lys Ile Lys Pro Ser Phe Asn Ile Val Pro Leu Thr Ser  
 210 215 220  
 Arg Val Lys Pro Asp Pro Pro His Ile Lys Asn Leu Ser Phe His Asn  
 225 230 235 240  
 Asp Asp Leu Tyr Val Gln Trp Glu Asn Pro Gln Asn Phe Ile Ser Arg  
 245 250 255  
 Cys Leu Phe Tyr Glu Val Glu Val Asn Asn Ser Gln Thr Glu Thr His  
 260 265 270  
 Asn Val Phe Tyr Val Gln Glu Ala Lys Cys Glu Asn Pro Glu Phe Glu  
 275 280 285  
 Arg Asn Val Glu Asn Thr Ser Cys Phe Met Val Pro Gly Val Leu Pro  
 290 295 300  
 Asp Thr Leu Asn Thr Val Arg Ile Arg Val Lys Thr Asn Lys Leu Cys  
 305 310 315 320  
 Tyr Glu Asp Asp Lys Leu Trp Ser Asn Trp Ser Gln Glu Met Ser Ile  
 325 330 335  
 Gly Lys Lys Arg Asn Ser Thr Gly Ala Pro Ser Gly Gly Gly Arg  
 340 345 350  
 Pro Ala Ser Ser Gly Asn Met Lys Val Leu Gln Glu Pro Thr Cys Val  
 355 360 365  
 Ser Asp Tyr Met Ser Ile Ser Thr Cys Glu Trp Lys Met Asn Gly Pro  
 370 375 380  
 Thr Asn Cys Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu  
 385 390 395 400  
 Leu Ser Glu Ala His Thr Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly  
 405 410 415  
 Cys Val Cys His Leu Leu Met Asp Asp Val Val Ser Ala Asp Asn Tyr  
 420 425 430  
 Thr Leu Asp Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe  
 435 440 445  
 Lys Pro Ser Glu His Val Lys Pro Arg Ala Pro Gly Asn Leu Thr Val  
 450 455 460  
 His Thr Asn Val Ser Asp Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr  
 465 470 475 480  
 Pro Pro Asp Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala Val Asn Ile  
 485 490 495  
 Trp Ser Glu Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr  
 500 505 510  
 Leu Glu Pro Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile  
 515 520 525  
 Ser Tyr Arg Ala Arg Val Arg Ala Trp Ala Gln Cys Tyr Asn Thr Thr  
 530 535 540  
 Trp Ser Glu Trp Ser Pro Ser Thr Lys Trp His Asn Ser Tyr Arg Glu  
 545 550 555 560  
 Pro Phe Glu Gln Ser Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro  
 565 570 575  
 Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
 580 585 590  
 Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
 595 600 605  
 Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
 610 615 620  
 Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
 625 630 635 640  
 Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
 645 650 655  
 Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
 660 665 670  
 Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln

675	680	685
Pro Arg Glu Pro Gln Val Tyr	Thr Leu Pro Pro Ser	Arg Glu Glu Met
690	695	700
Thr Lys Asn Gln Val Ser	Leu Thr Cys Leu Val	Lys Gly Phe Tyr Pro
705	710	715
Ser Asp Ile Ala Val Glu	Trp Glu Ser Asn	Gly Gln Pro Glu Asn Asn
725	730	735
Tyr Lys Thr Thr Pro Pro Val	Leu Asp Ser Asp	Gly Ser Phe Phe Leu
740	745	750
Tyr Ser Lys Leu Thr Val Asp	Lys Ser Arg Trp	Gln Gln Gly Asn Val
755	760	765
Phe Ser Cys Ser Val Met His	Glu Ala Leu His	Asn His Tyr Thr Gln
770	775	780
Lys Ser Leu Ser Leu Ser	Pro Gly Lys	
785	790	